LT SOLUTIONS

Electrical • Security • Low-Voltage Systems

COMPANY SAFETY MANUAL

OSHA | ANSI | NFPA 70E Compliance Program

Document No. SAF-MAN-001

Revision 0 — Effective Date: 9-28-2026

Wichita, Kansas

Document Control and Approval

Document Number	SAF-MAN-001
Document Title	LT Solutions Company Safety Manual
Revision	0
Effective Date	9-28-2026
Review Cycle	Annually, and after any significant incident or regulatory change
Document Owner	Ownership / Partners, LT Solutions
Applies To	All LT Solutions employees, subcontractors, and temporary workers

Revision History

Rev	Date	Description of Change
0	9-28-2026	Initial issue

How to Use This Manual

This manual is organized by topic. Each policy section follows the same structure: Purpose and Scope, Responsibilities, Minimum Requirements, Required Procedure, Training and Competency, Inspections/Documentation/Records, and Key References. Where a client contract or job site has a stricter written requirement than this manual, the stricter requirement governs for that job. Where this manual is silent, employees follow the applicable OSHA, ANSI, and NFPA 70E standard and ask their Supervisor before proceeding.

Forms referenced throughout this manual are listed in Section 36 and are maintained in the current version at the shop and in field vehicles/devices.

Ownership Commitment Letter

LT Solutions was built on a reputation for reliable, high-quality electrical, security, and low-voltage systems work across Wichita and the surrounding communities. That reputation was earned one job at a time — by showing up prepared, doing the work right, and treating every customer's home or business with the same care we'd want in our own. As we grow — adding crews, taking on larger commercial work, and expanding what we offer — that same standard has to apply to how safely we work, not just how well we work.

We are committed, together, to providing the training, equipment, time, and support our crews need to go home safely at the end of every day. That commitment doesn't stop at big jobs or client sites with strict rules — it applies just as much to a routine service call, a panel change, or a camera install a few blocks from the shop. Safety is not a line item we trim when a schedule gets tight or a bid gets competitive; it is a fixed cost of doing business, the same as trucks, tools, and materials.

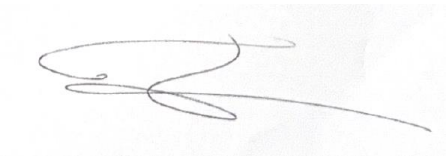
Because electrical work is the core of what we do, and because it's also where a mistake carries the highest cost, the electrical safety program in this manual — de-energizing before work, lockout/tagout, arc-flash PPE — is treated as non-negotiable. The same goes for the work our crews do at height and on the road every day: ladders, roofs, aerial trucks, and the fleet of vans that gets us from job to job.

Every employee — from a first-week apprentice to our most senior technician — has our full backing to stop a task, ask a question, or push back on a condition that doesn't feel right, without fear of being penalized, even if the concern turns out not to be serious. We would always rather lose a few minutes to a question than a person to a shortcut.

This manual sets the minimum standard for how we work. We expect every employee, and every subcontractor we bring onto a job, to know it, follow it, and hold each other to it. In turn, we hold ourselves accountable for the training, equipment, and time this manual requires, and for reviewing how we're actually doing against it — not just once at hiring, but throughout the year as the company and the work we take on continue to change.

Tate Nowlin

Owner / Operations Manager, LT Solutions



Lance Claassen

Business Manager / Principal, LT Solutions



About LT Solutions

LT Solutions is a locally owned electrical and security systems contractor serving Wichita, Andover, Goddard, Bel Aire, Park City, Valley Center, Derby, Haysville, Maize, Newton, Augusta, El Dorado, and Hutchinson, Kansas.

Core service lines this manual is built around:

- Electrical service, repair, and installation for residential and commercial customers
- Panel upgrades, lighting, and general electrician work
- Surveillance, access control, and digital signage systems
- Data cabling and structured network cabling
- Mobile security trailers for job sites and events

Because electrical work is LT Solutions' primary business, the electrical safety program (Sections 8–10) is the backbone of this manual. Because crews are on the road constantly and regularly work at height, the fleet safety program (Section 28) and fall protection program (Section 14) are also treated in full depth rather than as brief summaries.

Flagship Program Ownership and Review

The five programs below carry the highest risk in LT Solutions' work and are reviewed on their own schedule, in addition to the annual review of this full manual.

Program	Manual Section	Program Owner	Last Reviewed	Next Review
Electrical Safety-Related Work Practices	8	Ownership	_____	_____
Lockout/Tagout	9	Ownership	_____	_____
Arc Flash Risk Assessment & PPE	10	Ownership	_____	_____
Fall Protection	14	Field Supervisor	_____	_____
Vehicle and Fleet Safety	28	Ownership	_____	_____

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1. Safety Policy and Leadership Commitment

Purpose and Scope

State LT Solutions' commitment to sending every employee home safely every day, and establish safety as a condition of employment rather than a competing priority.

Responsibilities

- Ownership sets the safety policy, funds it, and reviews performance at least annually.
- Supervisors are accountable for enforcing this manual on every job, every day, without exception for schedule or client pressure.
- Every employee is accountable for following this manual, using their stop-work authority, and looking out for coworkers.

Minimum Requirements

- No job is so urgent that it cannot be done safely; schedule and cost pressure never justify skipping a control required by this manual.
- LT Solutions will comply with all applicable OSHA (29 CFR 1910 and 1926), ANSI, and NFPA 70E requirements, and with any stricter client or site rule.
- Safety performance (inspections, training completion, incidents, corrective actions) is reviewed by ownership no less than quarterly as the company grows.
- Resources for PPE, tools, training, and program administration are budgeted as a normal cost of doing business, not an optional expense.

Required Procedure

1. Ownership reviews and signs this manual annually and after any significant incident or regulatory change.
2. Supervisors communicate policy updates to crews at toolbox talks and post current versions at the shop and on active job trailers/vehicles.
3. Safety performance and open corrective actions are reviewed at a recurring leadership meeting.

Training and Competency

- All employees receive this policy at orientation and acknowledge it in writing (Section 37).

Inspections, Documentation, and Records

- Retain the signed policy, revision history, and leadership review notes for the life of the manual plus 3 years.

Key References

29 CFR 1926.20–.21; OSHA Recommended Practices for Safety and Health Programs; ANSI/ASSP Z10.

2. Roles, Stop-Work Authority, and Communication

Purpose and Scope

Define who does what on a job, and guarantee every person on an LT Solutions site the authority and protection to stop work when something is unsafe.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Any employee, subcontractor, or visitor may stop work immediately when they identify a hazard, without needing prior approval.
- A stopped task may not resume until the hazard is corrected and the Supervisor or Qualified Person confirms it is safe.
- No employee will be disciplined, penalized, or retaliated against for a good-faith stop-work call, even if the concern turns out to be unfounded.
- Every crew identifies who the Competent/Qualified Person is for each hazard present on that day's work (ladders, fall protection, electrical, excavation, etc.).

Required Procedure

1. Stop the task and make the hazard visible (verbal alert, barricade, tag-out) as soon as it is identified.
2. Notify the Supervisor and the affected crew.
3. Correct the hazard or remove exposure before work resumes.
4. Document the stop-work event and resolution on the daily JHA or an incident form if applicable.

Training and Competency

- Stop-work authority and the no-retaliation commitment are covered at new-hire orientation and reinforced during toolbox talks.

Inspections, Documentation, and Records

- Log stop-work events with resolution for trend review.

Key References

29 CFR 1926.20; OSHA Whistleblower Protection (Section 11(c)) of the OSH Act.

3. Safety and Health Program Administration

Purpose and Scope

Establish the planning, hazard-assessment, inspection, and multi-employer coordination framework that supports every policy in this manual as LT Solutions grows.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.

- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- A Job Hazard Analysis (JHA) or daily pre-task plan is completed before work begins on every job and updated when scope or conditions change.
- Supervisors conduct documented site safety inspections on a regular schedule appropriate to job risk and duration.
- Employees are given a real, non-punitive channel to raise hazards, near misses, and suggestions, and are involved in JHA development for their own tasks.
- On multi-employer/client sites, LT Solutions identifies the controlling employer, follows site-specific rules that are stricter than this manual, and communicates hazards it creates to other employers present.
- This program is reviewed annually and updated as the company adds services, headcount, or equipment.

Required Procedure

1. Identify the scope of work and applicable hazards before mobilizing to a site.
2. Complete and communicate the JHA/pre-task plan with the crew, including any client-required permits.
3. Perform the work under the controls identified; supervisors spot-check throughout the shift.
4. Close out the day with a brief debrief noting any hazard, near miss, or condition to carry forward.

Job Hazard Analysis Process

- The JHA (Appendix H) breaks a task into its individual steps, identifies the hazard(s) in each step, and assigns a specific control (PPE, procedure, or permit) to each hazard — it is not a generic one-size-fits-all form filled out from memory.
- The crew performing the task participates in writing or reviewing the JHA, since the people doing the work are best positioned to spot the real hazards.
- The JHA is updated on the spot whenever the scope, location, or conditions change during the day, and is reviewed again the next morning if the same task continues.

Training and Competency

- Supervisors are trained on JHA development, inspection techniques, and multi-employer coordination.

Inspections, Documentation, and Records

- Retain JHAs, inspection reports, and program review notes for 3 years.

Key References

29 CFR 1926.20–.21 and 1910 Subpart C; OSHA multi-employer worksite policy (CPL 02-00-124); ANSI/ASSP Z10.

4. Access, Egress, and Ladders

Purpose and Scope

Govern selection, inspection, setup, and use of portable ladders and safe access/egress on every job — the most frequent point of contact for an electrical/low-voltage crew.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Ladders are inspected before each use and after any event that could damage them; defective ladders are tagged DO NOT USE and removed from service immediately.
- Portable ladders are set on stable, level footing, secured against displacement, and used within their duty rating.
- Metal ladders are prohibited within reach of exposed energized parts; fiberglass or wood ladders are used for any electrical work.
- Three points of contact are maintained at all times; employees do not carry loads that prevent a safe climb and use tool belts or a hand line instead.
- Non-self-supporting ladders used for access extend at least 3 feet above the landing and are set at approximately a 4:1 angle and ladders must be secured or held by an employee.
- Stepladders are fully opened with spreaders locked; no employee stands on the top step/cap or uses a folded stepladder as a straight ladder.

Required Procedure

1. Select the right ladder for the task, height, duty rating, and environment (fiberglass near electrical work).
2. Inspect rails, feet, rungs, hardware, and labels before use.
3. Set up on level ground, barricade or have an attendant if the base is exposed to traffic, and secure the top.
4. Maintain three points of contact and stay within rated capacity.
5. Remove and tag damaged ladders out of service and report to the Supervisor.

Training and Competency

- Ladder users receive instruction on selection, inspection, setup, electrical hazards, and three-point contact before independent use.

Inspections, Documentation, and Records

- Retain the current Ladder Inspection Form (SAF-LAD-001-F1) and periodic ladder inventory.

Key References

29 CFR 1910.23; 1926.1053; 1926.1060; NFPA 70E.

5. Accident/Incident Reporting and Investigation

Purpose and Scope

Ensure every injury, illness, near miss, and property-damage event is reported immediately and investigated to prevent recurrence.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- All injuries, illnesses, near misses, vehicle incidents, and property damage are reported to the Supervisor the same shift, no matter how minor.
- Any fatality is reported to OSHA within 8 hours; any inpatient hospitalization, amputation, or loss of an eye is reported within 24 hours.
- A root-cause investigation is completed for every recordable injury and any near miss with serious-injury potential.
- Corrective actions from an investigation are tracked to closure and shared with affected crews.

Required Procedure

1. Render first aid/call 911 as needed and secure the scene.
2. Notify the Supervisor immediately and ownership for any serious event.
3. Complete the Incident Report and, for OSHA-reportable events, make the required call/online report within the mandated window.
4. Investigate root cause, identify corrective actions, and close them out with follow-up.

OSHA Reportability Decision Guide

- Fatality — report to OSHA within 8 hours of the employer learning of it, regardless of when the underlying event happened.
- In-patient hospitalization of one or more employees — report within 24 hours; observation or diagnostic testing alone does not count as in-patient hospitalization.
- Amputation — report within 24 hours.
- Loss of an eye — report within 24 hours.
- When in doubt about whether an event meets one of these thresholds, the Supervisor contacts ownership immediately so the reporting window is not missed — it is better to call OSHA and learn a report wasn't required than to miss the deadline.

Training and Competency

- Employees are trained on what to report, to whom, and the no-blame purpose of investigation at orientation.

Inspections, Documentation, and Records

- Retain incident reports, investigations, and corrective-action logs for at least 5 years.

Key References

29 CFR 1904 (Recording and Reporting); 1904.39 (severe injury reporting).

6. Aerial Work Platforms and Bucket Trucks

Purpose and Scope

Control the use of bucket trucks, boom lifts, and scissor lifts for exterior lighting, signage, camera, and overhead cable work.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Only trained, evaluated, and authorized operators familiar with the specific make/model may operate an aerial device.
- A pre-start inspection and site risk assessment (ground conditions, overhead lines, slope, wind) is completed each shift.
- Occupants use a full-body harness with a short lanyard attached to the manufacturer-designated anchor in boom-supported platforms at all times while in the basket.
- Minimum approach distances from energized overhead conductors are maintained per NFPA 70E/utility requirements unless the line is confirmed de-energized; the truck is not treated as insulated unless rated and maintained for that purpose.
- Outriggers, wheel chocks, and ground barricades are set before elevating; the basket is never used as a crane or with unauthorized attachments.

Required Procedure

1. Complete pre-start inspection and jobsite hazard scan, including overhead line survey.
2. Set up ground controls, barricades, and outriggers.
3. Don and attach fall protection before entering the basket.
4. Operate within rated capacity and manufacturer limits; keep clear of energized conductors.
5. Lower, secure, and report any defect at end of use.

Minimum Approach Distances Near Power Lines

- Before elevating near overhead lines, the operator confirms whether the lines are energized and, if so, treats the aerial device and its occupants as exposed to shock and arc-flash hazards unless the device is specifically rated, tested, and maintained as insulating equipment for that voltage.
- Minimum approach distances for the voltage involved are determined from NFPA 70E/utility requirements before any part of the truck, boom, or bucket — or any tool or material handled from it — is brought closer to the line than that distance.
- When the required clearance can't be confirmed or maintained, the utility owning the line is contacted to de-energize, relocate, or guard it before work continues.

Dielectric Testing of Insulated Buckets

- Any bucket relied on as insulating protection near energized lines is dielectric-tested on the manufacturer's or a recognized standard's interval, and the test date is marked on the equipment.
- A bucket is not treated as insulating if the test has lapsed, if it is wet, dirty, or contaminated, or if it shows visible damage — in any of those cases, the full minimum approach distance for exposed (non-insulated) equipment applies instead.

Rescue Plan for Aerial Devices

- Before elevating an occupant, the crew confirms a way to lower the platform if the operator becomes incapacitated — ground-level controls, a second trained operator, or a manufacturer-specified manual lowering procedure.
- Ground personnel know the location and operation of the ground controls before the platform is elevated.

Training and Competency

- Operators complete manufacturer/ANSI-based aerial-platform training and evaluation before independent use, refreshed after any incident or unsafe operation.

Inspections, Documentation, and Records

- Retain operator authorization records, pre-use inspection logs, and dielectric test records for insulated buckets.

Key References

29 CFR 1926.453; ANSI/SAIA A92 series; NFPA 70E for line-clearance distances.

7. Confined Space Entry

Purpose and Scope

Protect employees who must enter electrical vaults, pull boxes, crawlspaces, or utility manholes to run cable or service equipment.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.

- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Any space meeting the definition of a permit-required confined space (limited entry/exit, not designed for continuous occupancy, potential hazardous atmosphere or engulfment) requires a written permit before entry.
- The atmosphere is tested by a trained, calibrated-equipment user before entry and monitored continuously while occupied.
- An attendant remains outside the space at all times entrants are inside, in continuous communication with them.
- A non-entry rescue plan is in place before entry begins; entry is not permitted without one.
- Energy sources and stored product in or affecting the space are isolated per the Lockout/Tagout policy (Section 9) before entry.

Required Procedure

1. Identify whether the space is permit-required; complete the entry permit if so.
2. Test and continuously monitor the atmosphere; ventilate if needed.
3. Post the attendant and confirm communication and rescue arrangements.
4. Enter, perform the work, and exit; the attendant logs entries/exits.
5. Close and cancel the permit at completion.

Permit-Required vs. Non-Permit Space Determination

- Before any entry, the Supervisor or Competent Person evaluates the space against the permit-required definition: limited or restricted means of entry/exit, not designed for continuous employee occupancy, and containing or having the potential to contain a hazardous atmosphere, engulfment hazard, an internal configuration that could trap an entrant, or any other recognized serious hazard.
- A space that meets the definition is treated as permit-required unless it can be reclassified in writing after all hazards have been eliminated — reclassification is not assumed based on past experience with a similar space.

Atmospheric Testing Sequence

1. Test for oxygen content first (normal range is approximately 19.5%–23.5%).
2. Test for flammable gases/vapors next.
3. Test for toxic gases/vapors relevant to the space (e.g., carbon monoxide, hydrogen sulfide) last.
4. Retest periodically while the space is occupied, and immediately if conditions change or ventilation stops.

Rescue Options

- Non-entry rescue (retrieval line and harness that allows an attendant to pull an entrant out without entering) is used whenever the space configuration allows it.
- Where non-entry rescue isn't possible, an entry rescue plan naming a trained rescue team (in-house or the local fire department) is confirmed and their expected response time is known before entry begins.
- Entrants are never rescued by an untrained attendant entering the space — doing so has historically caused multiple-fatality incidents in confined spaces.

Training and Competency

- Entrants, attendants, and entry supervisors receive role-specific confined space training before assignment.

Inspections, Documentation, and Records

- Retain closed entry permits and atmospheric test logs for 1 year minimum.

Key References

29 CFR 1910.146; 29 CFR 1926 Subpart AA.

8. Electrical Safety-Related Work Practices

Purpose and Scope

Establish the core electrical safety program required by NFPA 70E and OSHA for every technician who installs, services, or troubleshoots electrical, low-voltage, or security systems. Because electrical work is LT Solutions' primary business, this program is treated as the backbone of the manual, and every field employee is expected to know it in depth, not just be aware of it.

Responsibilities

- Ownership designates which employees meet the OSHA/NFPA 70E definition of a Qualified Person for the electrical tasks they perform, based on training and demonstrated skill, and maintains that list in writing.
- The Field Supervisor verifies that only Qualified Persons perform work on or near exposed energized parts and that an Energized Electrical Work Permit is used when required.
- Qualified Persons perform the shock and arc-flash risk assessment for their task, conduct the job briefing, and confirm PPE before starting work.
- All employees, qualified or not, keep clear of exposed energized parts and report damaged equipment, wiring, or missing covers immediately.
- Subcontractors performing electrical work must meet this policy and hold applicable state electrical licensure.

Minimum Requirements

- The default and required practice is to work de-energized: verify the equipment is de-energized using a properly rated meter and the test-before-touch method (test meter on a known live source, test the circuit, retest the meter) before any contact.
- Energized work is permitted only when de-energizing introduces greater hazard or is infeasible for the task (e.g., diagnostic testing, troubleshooting that cannot be performed de-energized), and only under a written Energized Electrical Work Permit signed by the Supervisor/Qualified Person (Appendix A).
- Lockout/Tagout (Section 9) is applied to all sources of stored and supply energy before equipment is opened for de-energized work.
- A shock risk assessment (voltage, approach boundaries) and an arc-flash risk assessment (incident energy or PPE category, arc-flash boundary) are completed before any energized task, per Section 10.
- Only insulated and voltage-rated tools are used within the restricted approach boundary; test instruments are rated for the category of the circuit being tested (CAT rating).
- Unqualified persons do not cross the limited approach boundary to exposed energized conductors and are escorted/supervised near any electrical work area.

Required Procedure

1. Identify the task and determine whether it can be performed de-energized.
2. If de-energized: apply Lockout/Tagout, verify zero energy state, and proceed.

3. If energized work is justified: complete the Energized Electrical Work Permit, shock and arc-flash risk assessment, and don PPE per the incident-energy analysis or PPE category table (Section 10).
4. Establish approach boundaries and keep unqualified persons outside them.
5. Perform the work, then restore guards/covers and re-energize per Section 9's restoration steps.

Definitions

- Qualified Person — an employee with the skills and knowledge related to the construction and operation of electrical equipment and installations, who has received documented safety training on the hazards involved in the specific task.
- Unqualified Person — anyone who does not meet the definition of Qualified Person for the task at hand; an employee can be qualified for one task and unqualified for another.
- Exposed Energized Parts — energized conductors or circuit parts not guarded, isolated, or insulated.
- Limited Approach Boundary — the distance from exposed energized parts within which only Qualified Persons (or escorted Unqualified Persons) may cross.
- Restricted Approach Boundary — the distance from exposed energized parts within which additional PPE and a documented risk assessment are required because of increased risk of contact.
- Arc-Flash Boundary — the distance from a potential arc source within which a person could receive a second-degree burn if an arc flash occurred; arc-rated PPE per the risk assessment is required inside this boundary.
- Electrically Safe Work Condition — a state in which conductors/parts have been disconnected from energized parts, locked/tagged per Section 9, tested with an adequately rated instrument to verify absence of voltage, and (where required) temporarily grounded.

Job Briefing

- Before starting each job involving electrical hazards, the Qualified Person in charge conducts a job briefing covering the hazards involved, the work procedure, special precautions, energy-source controls, and required PPE.
- The briefing is repeated when work changes significantly, when new personnel join the crew, or when conditions change (weather, new hazards discovered, schedule change).
- For repetitive, low-hazard tasks performed by the same crew, a brief reminder-level briefing is acceptable in place of a full detailed briefing.

Low-Voltage, Class 2, and Security/Data Systems Work

- Class 2 and Class 3 low-voltage circuits (typically 30 volts or less, common in access control, cameras, and data cabling) still require care: technicians confirm circuit classification before working on any conductor and never assume a wire is low-voltage without verification.
- Low-voltage and line-voltage wiring are kept separated per the National Electrical Code; shared enclosures, panels, or pathways are treated as line-voltage hazards until the line-voltage side is verified isolated or guarded.
- Any circuit is treated as energized until it has been tested and verified de-energized, regardless of how it is labeled or how low the expected voltage is.

Temporary Wiring, Extension Cords, and GFCI Protection

- All 125-volt, single-phase, 15-, 20-, and 30-ampere receptacles used on a construction site (including those LT Solutions installs temporarily) are GFCI-protected.
- Temporary lighting and cord sets are inspected before use; damaged cords, missing ground pins, or taped-over damage are removed from service immediately, not repaired with tape.
- Cords and temporary wiring are rated for the environment they are used in, including wet or outdoor locations.

Panels, Breakers, and Equipment Labeling

- Panel directories/circuit labeling are updated any time LT Solutions adds, moves, or removes a circuit.
- Panel covers and equipment doors are replaced and secured immediately after work is complete; dead-front covers are never left off or bypassed.
- Breakers are never blocked, taped, or defeated to hold them in a position other than their normal operating function.

Grounding and Bonding

- Grounding and bonding conductors/connections are visually verified intact before re-energizing equipment that was opened for service.
- Bonding jumpers, ground straps, and equipment grounding conductors are never removed or left disconnected after work.
- Where required by the risk assessment, temporary protective grounds are applied to previously energized conductors before employees work on them in a de-energized state, and removed only after the work is complete and before re-energizing.

Training and Competency

- Qualified Persons receive documented training on the electrical hazards of their specific tasks, safe work practices, and PPE selection, retrained at least every 3 years or after an incident/procedure change.
- All employees receive awareness-level training on electrical hazards and the limits of what they are authorized to do.

Inspections, Documentation, and Records

- Retain Qualified Person designations, training records, job briefing notes for higher-hazard tasks, and completed Energized Electrical Work Permits for 3 years.

Key References

NFPA 70E (current edition); 29 CFR 1910 Subpart S; 29 CFR 1926 Subpart K; NFPA 70 (National Electrical Code).

9. Lockout/Tagout — Control of Hazardous Energy

Purpose and Scope

Prevent unexpected energization or release of stored energy while employees service or maintain electrical, mechanical, or control equipment. Because most LT Solutions work involves opening energized equipment to service or extend it, this is one of the most important programs in this manual and is covered in full detail below, including how a lock is removed when the employee who applied it is not available.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.

- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Every energy-isolating device is identified by equipment-specific written procedures where feasible; simple, single-source lockouts may use the general procedure documented here.
- Each authorized employee applies their own lock and tag before starting work; group lockout procedures are used when multiple crafts or shifts are exposed.
- Zero-energy state is verified after lockout and before work begins (test-before-touch on electrical circuits; bleed/block stored mechanical, hydraulic, pneumatic, or gravity energy).
- Only the employee who applied a lock removes it under normal circumstances; the documented exception process in this section applies if that employee is unavailable.
- Locks and tags are never bypassed, removed by another party outside this procedure, or used for any purpose other than energy control.

Required Procedure

1. Notify affected employees and prepare for shutdown.
2. Shut down equipment through its normal stopping procedure.
3. Isolate all energy sources (electrical, mechanical, hydraulic, pneumatic, thermal, stored/gravity).
4. Apply individual lock and tag to each isolating device.
5. Release/block any stored or residual energy and verify a zero-energy state.
6. Perform the work; when complete, remove tools, reinstall guards, clear the area, and remove locks in reverse order before re-energizing.

Definitions

- Authorized Employee — an employee who locks out or tags out equipment to perform service or maintenance; this includes most LT Solutions field technicians for the equipment they work on.
- Affected Employee — an employee whose job requires them to operate equipment on which service is being performed, or who works in an area where such service is performed, but who does not perform the lockout.
- Energy-Isolating Device — a mechanical device that physically prevents transmission or release of energy, such as a manually operated circuit breaker, disconnect switch, or line valve.
- Energy Source — any electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or gravitational source of energy that could cause injury.
- Normal Production Operations — the utilization of equipment to perform its intended production function; lockout/tagout applies to servicing and maintenance activities outside of normal production.

Types of Hazardous Energy

- Electrical — the most common source in LT Solutions' work: supply-side voltage, backfeed from generators/solar/UPS systems, and capacitors that retain a charge after shutoff.
- Mechanical — stored energy in springs, counterweights, or components under tension or compression.
- Gravitational — elevated components, booms, or platforms that could fall or drop if not blocked.
- Hydraulic and Pneumatic — pressurized fluid or air in lines, cylinders, or accumulators that must be bled down and blocked.
- Thermal — hot surfaces or stored heat that must cool, or be otherwise guarded against, before contact.
- Every energy source affecting a piece of equipment must be identified and controlled — not just the primary electrical supply.

Lockout vs. Tagout-Only

- A lockout device is used wherever the energy-isolating device is capable of accepting one; this is the default and required method for LT Solutions' work.
- A tagout-only approach is permitted only where the isolating device cannot physically accept a lock, and only when the tagout program provides a level of protection equivalent to lockout — for example, by also removing a fuse, opening an additional disconnecting device, or blocking a control that achieves an equivalent safe condition.
- A tag by itself is a warning device, not a physical restraint; it is never used as a substitute for lockout when a lockable device is available.

Lockout Devices and Hardware

- Breaker lockouts, plug/cord lockouts, valve lockouts (ball and gate), and similar standardized devices are used to fit the specific isolating device.
- Multi-lock hasps are used whenever more than one authorized employee must lock out the same isolation point (see Group Lockout below).
- Each authorized employee's padlock is uniquely keyed to that employee (or that employee's designated box) and is identifiable to them; keys are not shared, and duplicate keys are not kept accessible to other employees.
- Locks and tags are durable, standardized in color/shape/size across the company so they are immediately recognizable as energy-control devices, and are used for no purpose other than lockout/tagout.

Group Lockout/Tagout Procedure

1. A primary authorized employee is designated to have overall responsibility for the group lockout on a given job.
2. A group lockbox or a multi-lock hasp is applied to the isolation point(s) instead of, or in addition to, individual device lockout.
3. Each authorized employee working under the group procedure places their own personal lock on the hasp or lockbox before beginning any exposure to the equipment.
4. No employee's protection depends on another employee's lock alone — each person is responsible for verifying isolation before they personally begin work.
5. As each employee completes their portion of the work, they remove only their own lock; the equipment is not considered clear to restore until every employee's lock has been removed and accounted for.

Shift and Personnel Changes

- Protection must be continuous across a shift or personnel change — there is no point at which the equipment is unprotected between an outgoing and incoming authorized employee.
- The outgoing authorized employee's lock is not removed until the incoming authorized employee has applied their own lock and independently verified the isolation and zero-energy state.

Temporary Removal for Testing or Positioning

1. Clear the equipment of tools and materials.
2. Remove employees from the machine or equipment and from any hazardous location.
3. Remove the lockout/tagout devices following the standard removal steps below.
4. Energize and proceed with the required testing or positioning only.
5. De-energize all systems and re-isolate the equipment.
6. Reapply lockout/tagout devices before continuing the original service or maintenance work.

Removal of a Lockout Device by Other Than the Authorized Employee (Cut-Lock Procedure)

- This procedure is used only when the authorized employee who applied a lock is not available to remove it personally — for example, they have left the jobsite or the company, or there is an emergency — and the lock must be removed before work can be completed safely or equipment can be safely restored to service.

1. The Supervisor makes every reasonable effort to contact the employee who applied the lock to determine the status of the work and whether it is safe to remove the lock and restore the equipment.
2. If the employee cannot be reached, the Supervisor (or a designated Competent/Qualified Person) visually inspects the equipment and work area to verify, to the extent possible, that the work has been completed and that no tools, materials, guards, or personnel are in a condition that would create a hazard if energy is restored.
3. The lock and tag are removed using bolt cutters or another mechanical means, performed only by the Supervisor or a designated Competent/Qualified Person — never by an employee who is not authorized to make this determination.
4. The removal is fully documented in writing on the Lockout Device Removal (Cut-Lock) Form (Appendix C), including the date, time, equipment/location, reason the original employee was unavailable, who performed the removal, and how the equipment's safe condition was verified.
5. Before the original employee resumes work at LT Solutions (or returns to that job site), they are informed that their lock was removed, why, and the current status of the equipment, before they are allowed to treat that equipment as still under their control.
6. The removed lock is not reused; the employee is issued a new lock and briefed on the circumstances as part of closing out the event.
7. This process satisfies the OSHA requirement that a lockout device only be removed by someone other than the employee who applied it under a specific, documented procedure that protects the employee's safety.

Outside Personnel and Multi-Employer Coordination

- When LT Solutions and another employer's personnel (a general contractor, facility maintenance staff, or another subcontractor) share isolation points on the same equipment, both employers exchange and follow each other's lockout/tagout procedures before work begins.
- LT Solutions' authorized employees are briefed on any client-specific lockout program, permit system, or isolation point unique to that facility before starting work there.

Periodic Inspection of the Energy Control Program

- At least annually, a person who is not the one using a given lockout procedure inspects that procedure to confirm the requirements of this policy are being followed and to identify any deviations or gaps.
- The inspection includes a review with each authorized employee covered by the inspected procedure, of their responsibilities under it.
- Any deficiency identified is corrected, and the procedure is updated if the inspection reveals it no longer matches how the equipment is actually isolated.

Machine- and Equipment-Specific Procedures

- For equipment with more than one energy source, non-obvious isolation points, or a sequence that isn't self-evident, a written, equipment-specific lockout procedure is developed using the template in Appendix B.
- The equipment-specific procedure identifies: the equipment and its function, all energy sources and their magnitude, the location and type of each isolating device, the specific steps to shut down, isolate, and verify zero energy, and how stored/residual energy is relieved.
- For most of LT Solutions' service work (a single panel or disconnect with one clear energy source), the general procedure in this section, applied consistently, is sufficient.

Training and Competency

- Authorized employees are trained on energy control procedures, isolation points, verification methods, and the cut-lock removal procedure before performing lockout independently.
- Affected employees are trained on the purpose and rules of the program; retraining occurs after any procedure change or incident.

Inspections, Documentation, and Records

- Retain energy control procedures, equipment-specific procedures, training records, cut-lock removal documentation, and periodic (at least annual) procedure inspections.

Key References

29 CFR 1910.147; NFPA 70E Article 120 (Establishing an Electrically Safe Work Condition).

10. Arc Flash Risk Assessment, Boundaries, and PPE Categories

Purpose and Scope

Quantify shock and arc-flash exposure before energized electrical work and select the correct approach boundaries and PPE.

Responsibilities

- Ownership ensures arc-flash risk assessments (incident energy analysis or the PPE category tables) are available for the equipment LT Solutions works on, or performs a task-based assessment using NFPA 70E's methods when equipment-specific data isn't available.
- The Qualified Person performing the task confirms voltage, equipment condition, and available fault current/clearing time information before selecting boundaries and PPE.
- The Field Supervisor confirms the correct PPE category is worn and boundaries are marked/enforced before energized work begins.

Minimum Requirements

- Before energized work, determine the limited approach boundary, restricted approach boundary, and arc-flash boundary for the equipment and voltage involved, using the current edition of NFPA 70E and any equipment-specific labeling.
- Determine required PPE either from an incident-energy analysis (for larger or more complex equipment) or from NFPA 70E's simplified table-based method (typical for the panelboards and disconnects LT Solutions most often works on).
- Arc-rated (AR) clothing and PPE meeting or exceeding the determined category is worn for any task inside the arc-flash boundary; PPE is never 'estimated down' to make a job more comfortable.
- Equipment is labeled with available arc-flash and shock hazard information per NFPA 70E field-marking requirements as it is encountered or serviced.
- Voltage-rated gloves are tested/inspected before each use and re-certified per the interval in the reference table below; insulating tools are inspected before use.

Required Procedure

1. Identify equipment voltage class, configuration, and available fault-current data (or use the table-based method for standard equipment).
2. Determine approach boundaries and required incident-energy/PPE category.
3. Select and inspect AR clothing, face/head, hand, and eye protection matching the category.
4. Mark or communicate boundaries to the crew; keep unqualified persons out.

5. Perform work; doff and store PPE correctly after task completion.

Definitions

- Incident Energy — the amount of thermal energy a person could be exposed to at a working distance during an arc-flash event, expressed in calories per square centimeter (cal/cm²); this drives PPE selection.
- PPE Category — a simplified classification (used when a full incident-energy study hasn't been performed) that maps common tasks and equipment types to a minimum PPE level, per NFPA 70E's task tables.
- Arc Rating — the maximum incident energy a piece of PPE can withstand before it would transfer enough heat to cause a second-degree burn.

Determining PPE: Incident-Energy Analysis vs. Table Method

- For most of LT Solutions' standard low-voltage panelboard and disconnect work, the NFPA 70E table method (matching the task and equipment type to a PPE category) is used.
- For larger service equipment, switchgear, or any installation where a client requires it, an incident-energy analysis (an engineering study using available fault current and clearing time) is obtained and used instead, and is updated at least every 5 years or after a significant change to the electrical system.
- When in doubt about which method applies, or when equipment lacks sufficient labeling or documentation to use either method confidently, the task defaults to the higher level of protection and the Supervisor is consulted before proceeding.

Voltage-Rated Glove Classes (ASTM D120)

- Gloves are also visually inspected and air-tested before every use, regardless of the certification date; any glove with a cut, puncture, or sign of degradation is removed from service immediately.

Class	Maximum Use Voltage (AC)	Typical Re-Test Interval
Class 00	500 V	Every 6 months
Class 0	1,000 V	Every 6 months
Class 1	7,500 V	Every 6 months
Class 2	17,000 V	Every 6 months
Class 3	26,500 V	Every 6 months
Class 4	36,000 V	Every 6 months

Approach Boundaries — General Reference

- Exact limited and restricted approach boundary distances depend on system voltage and configuration and are set by the current edition of NFPA 70E; for the 120/208/240/480-volt systems that make up most of LT Solutions' work, boundaries are typically measured in a few feet, with the restricted approach boundary noticeably closer than the limited approach boundary.
- Equipment labels, where present, are the fastest and most reliable source for the exact boundary distances for that specific piece of equipment — the Qualified Person confirms the label before relying on general reference figures.
- When a label is missing or illegible, the Qualified Person uses the current NFPA 70E tables for the equipment's voltage class rather than guessing, and flags the equipment for labeling per this policy.

Arc-Rated Clothing System

- Only natural-fiber (cotton, wool, silk) or arc-rated base layers are worn under AR clothing; melting synthetic fabrics are prohibited within the arc-flash boundary.

- AR clothing and PPE is inspected before each use for holes, contamination (grease/flammable liquids), and damaged closures, and is laundered/maintained per the manufacturer's instructions to preserve its arc rating.
- Lower-exposure tasks typically call for an AR shirt, pants, and face/head protection; higher-exposure tasks on larger or less-protected equipment call for a full multi-layer flash suit — the Qualified Person's risk assessment for the specific task determines which level applies, not habit or convenience.

Equipment Labeling

- Electrical equipment likely to require examination, adjustment, servicing, or maintenance while energized is field-marked to warn of the arc-flash hazard, per NFPA 70E.
- A compliant label indicates, at minimum, the nominal system voltage, the arc-flash boundary, and either the required PPE category or the incident energy at the working distance.
- Labels are checked and updated any time LT Solutions performs work that could change the equipment's fault current, protective device settings, or configuration.

Training and Competency

- Qualified Persons are trained to apply the table method and interpret equipment labels and incident-energy data, refreshed at least every 3 years.

Inspections, Documentation, and Records

- Retain risk-assessment worksheets, incident-energy studies (where used), PPE inspection records, and glove/tool test certificates.

Key References

NFPA 70E Article 130 and its PPE category tables; ASTM D120 (rubber insulating gloves); 29 CFR 1910.335.

11. Personal Protective Equipment

Purpose and Scope

Ensure the right PPE is selected, provided, maintained, and worn for every hazard LT Solutions employees are exposed to.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- A PPE hazard assessment is completed for each task type (electrical, ladder/fall, cutting/drilling, roof/attic access) and PPE is selected to match.

- Arc-rated clothing and PPE (Section 10) is required for any task inside the arc-flash boundary; ordinary cotton/synthetic-blend workwear is not a substitute.
- ANSI-rated eye protection, hand protection appropriate to the task, and hearing protection where required (Section 19) are provided at no cost to employees.
- PPE is inspected before use and replaced immediately when damaged, contaminated, or beyond its rated service life (e.g., voltage-rated gloves, hard hats).
- Head protection meeting ANSI Z89.1 is worn on any site with overhead work or falling-object exposure.

Required Procedure

1. Identify task hazards during JHA and confirm required PPE.
2. Inspect PPE before donning; do not use damaged or expired items.
3. Wear PPE correctly and consistently for the duration of exposure.
4. Clean, store, and maintain PPE per manufacturer instructions after use.

Task-Based PPE Reference

- This table is a starting reference; the task-specific JHA and, for electrical tasks, the Section 10 risk assessment always govern the final PPE selection.

Task	Hand	Eye/Face	Other
De-energized panel/device work	Work gloves	Safety glasses	Insulated tools as precaution
Energized work (per Section 8/10)	Voltage-rated gloves + leather protectors	Arc-rated face shield/hood	Arc-rated clothing per PPE category
Drilling/core boring	Cut-resistant gloves	Safety glasses/goggles	Hearing/respiratory PPE per Section 18/19
Ladder/roof/aerial work	Work gloves	Safety glasses	Fall protection per Section 14; hard hat if overhead hazard
Trenching/excavation	Work gloves	Safety glasses	High-visibility apparel; hard hat

Training and Competency

- Employees are trained on the limitations, use, and care of the PPE assigned to their tasks before first use.

Inspections, Documentation, and Records

- Retain PPE hazard assessments and issuance/training records.

Key References

29 CFR 1910.132–.138; ANSI Z87.1 (eye), ANSI Z89.1 (head), NFPA 70E.

12. Hand Tools and Portable Power Tools

Purpose and Scope

Prevent cuts, punctures, electrical shock, and struck-by injuries from hand and cord/battery-powered tools used in electrical and low-voltage installation work.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Tools are inspected before each use; damaged tools (cracked housings, frayed cords, missing guards) are tagged out and removed from service.
- Cord-connected power tools used in the field are GFCI-protected (cord GFCI or GFCI-protected outlet/panel) as required for construction sites.
- Guards are never removed or bypassed; the right tool is used for the job (e.g., no pliers as a hammer, no screwdriver as a chisel).
- Insulated/voltage-rated tools are used for any work within reach of energized parts (see Section 8).
- Tools are used, carried, and stored per manufacturer instructions.

Required Procedure

1. Inspect the tool and cord/battery before use.
2. Confirm GFCI protection for corded tools on the jobsite.
3. Use the correct tool and required guard for the task.
4. Tag out and report any damaged tool; do not attempt field repair of electrical tools without authorization.

Extension Cords and Temporary Power

- Extension cords are rated for the tool's amperage and the length of run; undersized or excessively long cords that cause voltage drop or overheating are not used.
- Cords are inspected for cut insulation, exposed conductors, and a fully intact ground pin before every use; a cord with a damaged ground pin is removed from service, never clipped off or bypassed.
- Cords are kept out of standing water and away from sharp edges, vehicle traffic, and heat sources; where a cord must cross a walkway, it is covered or elevated to prevent a trip hazard.
- Daisy-chaining multiple extension cords is avoided where possible; when unavoidable, the combined length and amperage draw are checked against the cord's rating.

Training and Competency

- Employees are trained on the safe use of each tool class they are assigned before independent use.

Inspections, Documentation, and Records

- Retain GFCI test logs and tool tag-out/repair records.

Key References

29 CFR 1926.404 (GFCI); 1926 Subpart I (Hand and Power Tools).

13. Cutting, Drilling, and Hot Work

Purpose and Scope

Control fire, eye/hand injury, and dust exposure from cutting conduit/cable tray, core drilling, and occasional torch or grinding work.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- A fire watch and appropriate extinguisher are in place for any hot work (torch cutting, grinding producing sparks) within 35 feet of combustibles; a hot work permit is used on client sites that require one.
- Eye, face, and hand protection matching the task (cutting, grinding, drilling) is worn; respiratory protection (Section 18) is used where drilling/cutting generates silica or other regulated dust.
- Guards on cutting/grinding tools are in place and rated for the wheel/blade installed; blades and wheels are matched to the tool's rated speed.

Required Procedure

1. Assess the area for combustibles and clear/protect them before hot work.
2. Don required PPE and stage an extinguisher.
3. Perform the cut/drill with guards in place.
4. Fire-watch the area for at least 30 minutes after hot work concludes; clean up dust and debris.

Training and Competency

- Employees performing hot work receive fire-prevention and permit training before assignment.

Inspections, Documentation, and Records

- Retain hot work permits where required by client/site.

Key References

29 CFR 1926 Subpart J (Welding and Cutting); 29 CFR 1926.1153 (Silica).

14. Fall Protection

Purpose and Scope

Protect employees working on roofs, attics, ladders beyond ladder scope, aerial platforms, and elevated equipment while installing cameras, signage, or exterior systems. Because LT Solutions' crews work at height on a regular basis, this program goes beyond the OSHA minimum and is treated as a full fall-protection program, not a single rule.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Fall protection (guardrails, personal fall arrest, or safety net) is required for construction work at 6 feet or more above a lower level, and per client/site rule when stricter.
- A full-body harness with a shock-absorbing lanyard or self-retracting lifeline is used with fall arrest, anchored to a point capable of supporting the required load, independent of any anchor used for positioning.
- Fall protection equipment is inspected before each use and removed from service after any fall event or visible damage.
- Roof and skylight hazards are identified and controlled (covers, guardrails, or personal fall arrest) before work begins near an unprotected edge or opening.
- A rescue plan for a suspended worker is in place before fall-arrest equipment is used; prolonged suspension is treated as a medical emergency.

Required Procedure

1. Identify fall exposure during the JHA and select the control (guardrail, restraint, or arrest).
2. Inspect harness, lanyard/SRL, and anchor point before use.
3. Connect before approaching the exposure; maintain 100% tie-off when moving between anchors.
4. Disconnect and stow equipment at task completion; report any fall event or equipment damage immediately.

Definitions

- Fall Restraint — a system that prevents an employee from reaching a fall hazard in the first place.
- Fall Arrest — a system that stops a fall that is already in progress, limiting the forces and distance involved.
- Free Fall Distance — the vertical distance a worker falls before a fall-arrest system begins to apply force to stop them.
- Deceleration Distance — the additional distance traveled while the fall-arrest system (shock absorber) is slowing the worker to a stop.
- Total Fall Clearance — the total vertical distance needed below the work surface to safely stop a fall without the worker striking a lower level; this must be verified before connecting.

- Anchor Point — a secure point of attachment for fall-protection equipment, independent of any anchor used for positioning or work platforms.

Hierarchy of Fall Protection Controls

- Elimination — perform the task from the ground, a ladder within its scope, or an aerial platform instead of exposing a worker to an unprotected edge, whenever practical.
- Passive Protection — guardrails or covers that protect without requiring the worker to do anything, used where feasible.
- Fall Restraint — a system that keeps the worker from reaching the edge or opening at all.
- Fall Arrest — used only when restraint or passive protection isn't feasible; treated as a last resort because it still allows a fall to begin.
- Administrative Controls — warning lines and safety monitors are used only on low-slope roofs, only for work at least 6 feet from the edge, and only when physical protection is genuinely infeasible for that specific task.

Anchor Point Requirements

- An anchor point used for fall arrest is capable of supporting at least 5,000 pounds per attached employee, or is part of a complete fall-arrest system designed by a qualified person with a safety factor of at least two.
- Anchors are independent of any anchor used for positioning, scaffolding, or work platforms.
- Employees never anchor to guardrails, conduit, ductwork, handrails, or other unrated structural elements, even temporarily.

Calculating Fall Clearance

- Total fall clearance needed equals the free fall distance, plus the deceleration distance of the shock-absorbing lanyard, plus a safety factor, plus any harness stretch and the worker's height.
- As a general reference, a worker using a standard 6-foot shock-absorbing lanyard typically needs on the order of 18 feet or more of clearance below the anchor point to fully arrest a fall before hitting a lower level.
- A self-retracting lifeline (SRL) significantly reduces the free-fall distance and therefore the clearance needed, and is used instead of a fixed-length lanyard whenever clearance below the work area is limited, such as on a low-slope roof.
- Crews verify that adequate clearance exists below the work area before connecting; if it doesn't, the anchor point is raised, an SRL is used, or the task is restructured before work begins.

Roof and Skylight-Specific Controls

- Skylights, roof hatches, and floor/roof openings are treated as fall hazards even if they appear to be load-rated; covers are marked 'HOLE — DO NOT REMOVE' and secured against displacement by wind or foot traffic.
- Leading-edge work (working near an unprotected roof edge) uses fall restraint or fall arrest, not just awareness.
- Warning-line and safety-monitor systems are limited to low-slope roofs, only where guardrails, restraint, or arrest are genuinely infeasible, and only for work performed at least 6 feet from the edge.

Rescue Planning and Suspension Trauma

- A specific rescue method — self-rescue, assisted rescue by a trained coworker, or emergency-service response — is identified before any fall-arrest equipment is used, not improvised after a fall occurs.
- Rescue of a suspended worker must happen within minutes: prolonged suspension in a harness can cause suspension trauma, a serious and potentially fatal circulatory condition.
- 911 is called immediately for any actual fall-arrest event, even if the employee appears uninjured, and the employee is monitored for symptoms of suspension trauma (dizziness, nausea, fainting) after rescue.

Equipment Inspection and Removal from Service

- Harnesses, lanyards, and SRLs are inspected before every use for cuts, burns, UV/chemical damage, frayed stitching, cracked or bent hardware, and a deployed shock-pack indicator.
- Any fall-protection equipment involved in an actual fall is removed from service immediately and is not returned to use, even if it appears undamaged.

Training and Competency

- Employees exposed to fall hazards are trained on hazard recognition, equipment use/inspection, anchor selection, clearance calculation basics, and rescue procedures before exposure, and retrained at least annually or after any fall event.

Inspections, Documentation, and Records

- Retain fall-protection training records, equipment inspection logs, and rescue plan documentation for elevated jobs.

Key References

29 CFR 1926 Subpart M; ANSI/ASSP Z359 series.

15. Scaffolding and Elevated Work Platforms

Purpose and Scope

Control occasional use of rolling scaffolds or podium ladders for interior panel, lighting, or low-voltage work above standard ladder height.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Scaffolds/podium platforms are erected, moved, and inspected by a Competent Person before each use shift.
- Guardrails are installed on platforms 10 feet or higher (or per manufacturer instruction for podium/rolling units); wheels are locked before mounting and never moved while occupied.
- Platforms are fully planked/decked with no gaps, and load rating is not exceeded.
- Access is by attached ladder or stair, never by climbing cross-braces.

Required Procedure

1. Competent Person inspects the scaffold/platform and site (level, stable footing) before use.
2. Lock wheels/casters, deploy outriggers, and install guardrails per manufacturer instructions.

3. Use the platform within rated load and height limits.
4. Lower, stow, or barricade the platform when unattended.

Training and Competency

- Users receive instruction on the specific platform type before independent use; Competent Persons receive additional inspection training.

Inspections, Documentation, and Records

- Retain Competent Person inspection notes for scaffold/platform use.

Key References

29 CFR 1926 Subpart L.

16. Trenching and Excavation

Purpose and Scope

Protect employees installing underground conduit, service entrances, or data cabling from cave-in, utility strike, and engulfment hazards.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Underground utilities are located (811/one-call) and marked before any excavation begins.
- A Competent Person classifies soil and selects the protective system (sloping, benching, shoring, or trench box) for any excavation employees enter.
- Excavations 5 feet or deeper require cave-in protection unless in stable rock; protective systems may be required at shallower depth when conditions warrant.
- Spoil and equipment are kept back at least 2 feet from the edge; safe egress (ladder or ramp) is provided within 25 feet of travel in trenches 4 feet or deeper.
- The Competent Person inspects the excavation daily and after any rain, vibration, or condition change; employees exit immediately if a hazard is observed.

Required Procedure

1. Call 811/locate utilities and obtain clearance before digging.
2. Competent Person classifies soil and selects the protective system.
3. Install protection, access/egress, and spoil setback before entry.

4. Inspect daily and after weather/condition changes; exit and correct any hazard found.
5. Backfill or otherwise secure the excavation when work is complete or unattended.

Soil Classification

- Type A soil — the most stable classification (e.g., clay, hardpan); allows the steepest temporary slope, but is disqualified by certain conditions such as being previously disturbed, subject to vibration, or having seeping water.
- Type B soil — medium stability (e.g., angular gravel, silt); requires a less steep slope or additional protection compared to Type A.
- Type C soil — the least stable classification (e.g., granular soils, submerged soil, soil from which water is freely seeping); requires the least steep slope or the most robust protective system.
- The Competent Person makes this classification using visual and manual soil tests before selecting a protective system — it is never assumed from a previous job's conditions.

Training and Competency

- The designated Competent Person completes excavation competent-person training; exposed employees are trained on hazard recognition and egress.

Inspections, Documentation, and Records

- Retain utility locate tickets, Competent Person inspection logs, and protective-system documentation.

Key References

29 CFR 1926 Subpart P.

17. Hazard Communication

Purpose and Scope

Ensure employees know the hazards of chemicals used in the field (adhesives, sealants, cleaners, battery electrolyte) and how to protect themselves.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- A current Safety Data Sheet (SDS) is maintained and accessible for every hazardous chemical used or stored by LT Solutions.
- Containers are labeled with product identity and GHS hazard information; secondary containers are labeled if not used up in the same shift by the same person.

- Employees are informed of the chemicals in their work area, how to read labels/SDS, and required PPE before first exposure.

Required Procedure

1. Identify chemicals brought onto a job or kept at the shop and obtain/maintain the SDS.
2. Label all containers, including secondary containers held beyond a single shift.
3. Train employees on the specific chemicals in their work area before use.
4. Update the chemical inventory and SDS library when a new product is introduced.

Training and Competency

- Employees receive HazCom/GHS training at orientation and when a new hazardous chemical is introduced to their work.

Inspections, Documentation, and Records

- Maintain the SDS library and written HazCom program; retain training records.

Key References

29 CFR 1910.1200.

18. Respiratory Protection

Purpose and Scope

Protect employees from dust (drilling, core-boring, insulation) and occasional fume exposure when engineering controls are not sufficient.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Engineering and work-practice controls (vacuum-shrouded drilling, wet methods, ventilation) are the first choice to reduce dust exposure.
- Where a respirator is necessary, employees are medically cleared, fit-tested, and trained before voluntary or required use.
- Voluntary use of a filtering-facepiece respirator (e.g., N95) is permitted with the required medical information provided to the employee under Appendix D.

Required Procedure

1. Evaluate the task for airborne hazard and apply engineering/work-practice controls first.
2. If a respirator is required, complete medical evaluation and fit test before use.
3. Employee inspects and dons the respirator per training; discards/cleans per manufacturer instruction.

Training and Competency

- Required respirator users complete training and fit testing before use and annually thereafter.

Inspections, Documentation, and Records

- Retain medical evaluation, fit-test, and training records for required respirator users.

Key References

29 CFR 1910.134; 1926.1153 (Silica).

19. Hearing Conservation

Purpose and Scope

Protect employees from noise exposure during drilling, grinding, or work near loud mechanical/electrical equipment.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Hearing protection is worn whenever engaged in tasks with high noise exposure (drilling, grinding, generator/compressor operation) or when posted/required on a client site.
- Employees with regular exposure at or above the OSHA action level are enrolled in a hearing conservation program including baseline and annual audiometric testing.

Required Procedure

1. Identify high-noise tasks during the JHA.
2. Select and wear hearing protection appropriate to the noise level.
3. Enroll qualifying employees in audiometric testing and track results.

Training and Competency

- Employees are trained on noise hazards, protector fit/use, and the purpose of audiometric testing.

Inspections, Documentation, and Records

- Retain audiometric test results and training records for enrolled employees.

Key References

29 CFR 1910.95; 1926.52 and 1926.101.

20. Heat Stress and Cold Stress

Purpose and Scope

Protect field crews working outdoors year-round in Kansas summers and winters.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Water, shade/cool-down areas, and work/rest scheduling are provided as heat index rises; supervisors watch for and act on early heat-illness signs.
- New or returning employees are acclimatized gradually over the first 1–2 weeks of hot-weather work.
- Appropriate layered clothing, warming breaks, and monitoring for cold-stress signs (frostbite, hypothermia) are used in winter conditions.

Required Procedure

1. Check forecast/heat index or cold conditions before the shift and plan water, breaks, and PPE accordingly.
2. Monitor crew for signs of heat or cold illness throughout the shift.
3. Respond immediately to any sign of heat or cold illness — move to shade/warmth, hydrate, and seek medical attention if symptoms don't resolve quickly.

Training and Competency

- Employees are trained annually before the hot/cold season on illness signs, prevention, and emergency response.

Inspections, Documentation, and Records

- Retain training records; log any heat/cold illness incident under Section 5.

Key References

OSHA General Duty Clause (Section 5(a)(1)); OSHA Heat Illness Prevention guidance.

21. Ergonomics

Purpose and Scope

Reduce strain and overexertion injuries from cable pulling, overhead work, and repetitive tool use.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Mechanical aids (fish tape, cable pullers, hoists) are used for heavy or repetitive pulling tasks where available instead of manual force alone.
- Employees are trained on proper lifting technique and encouraged to get help or use aids for awkward or heavy loads.
- Work positioning (scaffolds, platforms, adjustable height) is used to reduce prolonged overhead or awkward-posture work where practical.

Required Procedure

1. Assess the task for heavy, repetitive, or awkward-posture demands.
2. Select a mechanical aid or team lift where feasible.
3. Use proper body mechanics; take breaks during sustained overhead or repetitive tasks.
4. Report early discomfort so tasks can be adjusted before injury develops.

Training and Competency

- Employees receive lifting/ergonomics awareness training at orientation.

Inspections, Documentation, and Records

- Log ergonomic-related discomfort reports and any resulting task adjustments.

Key References

OSHA General Duty Clause; NIOSH lifting guidance.

22. Housekeeping and Material Storage

Purpose and Scope

Keep job sites, vehicles, and the shop free of slip, trip, fire, and struck-by hazards.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Work areas are kept free of scrap wire, packaging, and debris throughout the task, not just at the end of the day.
- Cords, cables, and hoses are routed overhead or out of walkways where practical; walkways and exits are never blocked.
- Materials are stacked and stored to prevent tipping; flammable/combustible materials are stored per manufacturer and fire code requirements.
- Trash and scrap are collected in labeled containers and removed regularly from the site and vehicles.

Required Procedure

1. Clean as you go during the task.
2. Route cords/cables to keep walkways clear.
3. Stack and store materials securely.
4. Remove trash/scrap at the end of each work day.

Training and Competency

- Housekeeping expectations are covered at orientation and reinforced during site inspections.

Inspections, Documentation, and Records

- Note housekeeping deficiencies and corrections on site inspection forms.

Key References

29 CFR 1926.25; 1910.22.

23. Fire Prevention and Protection

Purpose and Scope

Prevent and prepare for fire hazards from hot work, electrical faults, and flammable materials.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.

- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- A fire extinguisher is present on every service vehicle and jobsite where hot work, cutting, or flammable materials are present.
- Flammable and combustible materials are kept away from ignition sources and stored in approved containers/areas.
- Damaged or overloaded electrical circuits, extension cords, and temporary wiring are corrected immediately, not worked around.
- Employees know the location of the nearest extinguisher and exit at every job site.

Required Procedure

1. Identify ignition sources and combustible materials before starting hot work or electrical work.
2. Stage an extinguisher and control ignition sources.
3. Correct any electrical fire hazard (exposed wiring, overloaded circuits) found during work.
4. Report and extinguish/evacuate for any fire per training; call 911 for any fire beyond incipient stage.

Training and Competency

- Employees are trained on extinguisher use and evacuation at orientation.

Inspections, Documentation, and Records

- Retain extinguisher inspection tags and any fire-incident report.

Key References

29 CFR 1926 Subpart F; NFPA 10 (Portable Fire Extinguishers).

24. Emergency Preparedness and Evacuation

Purpose and Scope

Ensure every crew knows how to respond to a medical emergency, fire, severe weather, or other jobsite emergency.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.

- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Each Supervisor identifies the nearest emergency medical facility, muster point, and severe-weather shelter for the current job site before work begins.
- Emergency contact numbers and the jobsite address are readily available to every crew member (phone, vehicle placard).
- Crews take shelter or suspend outdoor work for lightning, high wind, or other severe weather per National Weather Service guidance for the area.
- Electrical shock/contact events are treated as an emergency: the source is de-energized or the victim separated from it without direct contact (using a non-conductive object) before first aid begins, and 911 is called for any electrical contact event.

Required Procedure

1. Brief the emergency plan (medical facility, muster point, shelter) at the start of each new job.
2. Monitor weather conditions during outdoor work.
3. In an emergency: render aid/shelter as appropriate, call 911, notify the Supervisor and ownership, and account for all crew members.

Electrical Contact/Shock Emergency Response

1. Do not touch the victim if they may still be in contact with an energized source.
2. De-energize the source if it can be done quickly and safely (turn off the breaker/disconnect); if not, separate the victim from the source using a non-conductive object (dry wood, fiberglass) rather than your hands.
3. Once separated from the source, call 911 immediately, even if the victim seems alert or uninjured — electrical injuries can cause delayed cardiac effects.
4. Begin CPR if the victim is not breathing or has no pulse, and use an AED if available and trained to do so.
5. Do not move the victim unless necessary to protect them from further hazard.
6. Report the event under Section 5 regardless of apparent severity.

Severe Weather Decision-Making

- Outdoor elevated work (ladders, aerial platforms, roofs) stops at the first sign of lightning, high wind, or an active severe weather warning for the area.
- Crews move to an enclosed vehicle or building until the warning has passed or conditions clearly improve.

Training and Competency

- Employees are briefed on site-specific emergency information at the start of each job and on general emergency procedures, including electrical contact response, at orientation.

Inspections, Documentation, and Records

- Document any emergency response and resulting corrective action under Section 5.

Key References

29 CFR 1926.35; OSHA General Duty Clause.

25. First Aid, CPR, and AED

Purpose and Scope

Ensure timely first aid is available on every job given LT Solutions' distance from fixed medical facilities on many residential/commercial sites, and given the added risk of electrical shock/cardiac events in electrical work.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- A stocked first aid kit appropriate to the work is present on every service vehicle and job site.
- At least one person on each crew is current in first aid/CPR/AED, or emergency medical response is available within a few minutes of the site.
- Any first aid rendered is logged, and any injury requiring more than first aid is escalated under Section 5.

Required Procedure

1. Assess the injury and render first aid within trained scope.
2. For a suspected electrical contact injury, ensure the source is de-energized or the person is separated from it safely before touching them.
3. Call 911 for anything beyond minor first aid, and for any electrical contact or fall-arrest event regardless of apparent severity.
4. Log the treatment given and notify the Supervisor.

Training and Competency

- Maintain current first aid/CPR/AED certification for at least one crew member on each active job, per client proposal offerings.

Inspections, Documentation, and Records

- Retain certifications and first aid logs.

Key References

29 CFR 1926.23–.25 (First Aid); ANSI Z308.1 (kit contents).

26. Powered Industrial Trucks

Purpose and Scope

Control the occasional use of forklifts or telehandlers for material handling at the shop or on larger installation jobs.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Only trained, evaluated, and authorized operators may operate a powered industrial truck.
- A documented pre-use inspection is completed each shift; defective equipment is tagged out.
- Loads are kept stable and within rated capacity; no riders unless an approved seat is provided; pedestrians are kept clear of the travel path.

Required Procedure

1. Verify operator authorization and inspect the equipment.
2. Assess route, load, and pedestrian exposure.
3. Operate within rated capacity; park with forks lowered and power secured after use.

Training and Competency

- Operators complete formal and practical training and evaluation before independent use, with re-evaluation at least every 3 years.

Inspections, Documentation, and Records

- Retain operator authorization and pre-use inspection records.

Key References

29 CFR 1910.178.

27. Rigging, Hoisting, and Material Handling

Purpose and Scope

Control hazards from hoisting panels, gear, or reels using come-alongs, hand hoists, or occasional small crane/boom-truck service.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.

- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training anH d manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Rigging hardware is inspected before use and rated for the load; damaged rigging is removed from service.
- No employee stands under a suspended load; tag lines are used to control load movement.
- Any crane/boom-truck lift is planned in advance, with power-line clearance maintained per NFPA 70E/utility requirements.

Required Procedure

1. Select rigging rated for the load and inspect before use.
2. Plan the lift path, clearances, and communication.
3. Perform a controlled test lift, then complete the move; keep personnel clear of the load and swing path.

Training and Competency

- Employees performing rigging tasks are trained on hardware inspection and safe lifting practices.

Inspections, Documentation, and Records

- Retain rigging inspection records.

Key References

29 CFR 1926 Subpart CC/H; ASME B30 series.

28. Vehicle and Fleet Safety

Purpose and Scope

Protect employees and the public while operating LT Solutions' fleet of service vans, trucks, and towed security trailers between jobs. Because the fleet is on the road constantly and often towing equipment, this program covers the full life cycle of a trip — the driver, the vehicle, the trailer, and the response if something goes wrong.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.

- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Only employees with a valid, appropriate license operate company vehicles; seat belts are worn at all times the vehicle is moving.
- Vehicles are inspected before use (lights, tires, mirrors, trailer hitch/lights for towed equipment) and defects are reported and corrected before further use.
- Cell phone use while driving follows a hands-free/no-texting standard; loads (ladders, material, security trailers) are secured before travel.
- Backing is minimized and a spotter is used when visibility is limited, especially with trailers.

Required Procedure

1. Inspect the vehicle/trailer before departure.
2. Secure all loads and equipment.
3. Drive per traffic law and this policy; report any incident immediately under Section 5.
4. Report vehicle defects for repair before the vehicle is used again.

Definitions

- GVWR (Gross Vehicle Weight Rating) — the manufacturer's maximum specified weight for a single vehicle, including cargo, fuel, and occupants.
- GCWR (Gross Combination Weight Rating) — the maximum specified weight for a vehicle and trailer combined, relevant when towing a security trailer.
- CDL (Commercial Driver's License) — a license required to operate certain larger vehicles or combinations; LT Solutions confirms whether any vehicle/trailer combination requires one as the fleet grows.
- DOT-Recordable Accident — a motor vehicle accident meeting federal criteria (e.g., a fatality, injury requiring immediate medical treatment away from the scene, or disabling damage requiring towing) that may trigger additional reporting for vehicles meeting the commercial motor vehicle definition.

Driver Qualification

- Every driver holds a valid state driver's license appropriate to the vehicle they operate.
- A motor vehicle record (MVR) check is run at hire and at least annually thereafter for every employee who drives a company vehicle.
- An employee whose license is suspended, revoked, or who accumulates excessive violations is restricted from driving company vehicles until the issue is resolved and reviewed by ownership.

Vehicle Assignment and Take-Home Use

- Company vans/trucks are for company business, including authorized take-home commuting for assigned technicians.
- Personal passengers and side jobs in a company vehicle are prohibited without ownership's approval.
- Company tools, materials, and inventory are secured in the vehicle at all times, especially when parked overnight.

Pre-Trip and Post-Trip Inspection

- A pre-trip inspection is completed before the first drive of the day and a post-trip check at the end of the day; the full checklist is in Appendix E.
- At minimum, drivers check lights/signals, tire condition and pressure, mirrors, wipers, fluid levels, brakes, horn, seat belt function, ladder-rack/racking security, and — when towing — the hitch, safety chains, and trailer lights.

Preventive Maintenance

- Vehicles are serviced on a schedule based on manufacturer-recommended mileage/time intervals, tracked centrally rather than left to individual memory.
- Any defect identified on a pre-trip inspection is repaired before the vehicle is used again; a vehicle flagged out of service is not driven until the repair is verified.

Distracted Driving and Phone Use

- Phone calls are hands-free only; texting, emailing, or programming navigation while the vehicle is in motion is prohibited.
- Any call, text, or navigation input that requires looking away from the road waits until the vehicle is stopped in a safe location.

Towing Security Trailers and Equipment

- The hitch/coupler is rated for the trailer's gross weight, and is confirmed latched and pinned before every trip.
- Safety chains are crossed under the tongue and attached to the tow vehicle frame (not the hitch itself), and the breakaway brake cable (where equipped) is connected.
- Trailer lights and brakes are functionally checked before towing; the load is secured and kept within the trailer's rated capacity.
- Drivers account for the wider turning radius, longer stopping distance, and increased rollover risk that come with towing, and adjust speed and following distance accordingly.

Backing and Parking

- Drivers pull through parking spaces to avoid backing whenever a pull-through option is available.
- A spotter is used any time backing visibility is limited, and always when a trailer is attached.
- Vehicles are parked clear of traffic and building egress paths; wheels are chocked on any grade if the vehicle is left unattended near active work.

Severe Weather Driving

- Speed and following distance are increased for rain, ice, snow, or high wind; trips are delayed when road conditions or an active weather warning make travel unsafe.
- Seasonal winter equipment (ice scraper, blanket, basic traction aid) is kept in each vehicle during winter months.

Fatigue and Hours Worked

- A driver who feels fatigued reports it to their Supervisor rather than continuing to drive; another employee or a break is arranged instead.
- As LT Solutions' fleet and routes grow, any vehicle/trailer combination that meets the federal definition of a commercial motor vehicle (for example, a gross combination weight rating over 10,001 pounds) is evaluated against applicable FMCSA/DOT requirements before it is put into that kind of service.

Motor Vehicle Accident Response

- Stop, check for injuries, and call 911 if anyone is injured or the vehicles are not safely drivable.
- Move vehicles to a safe location only if it is safe to do so and required by law; otherwise, leave them in place until law enforcement arrives.
- Exchange information with any other party, photograph the scene and damage, and do not admit fault or discuss liability at the scene.
- Notify the Supervisor and ownership immediately, complete the Incident Report (Section 5), and comply with post-accident testing under the Substance Abuse Policy (Section 30) where applicable.

Vehicle and Cargo Security

- Vehicles are locked whenever unattended, with tools and equipment stored out of plain view.
- Ladders, racking, and cargo are secured to prevent shifting or falling from the vehicle in transit.

Training and Competency

- Employees who drive for LT Solutions are briefed on this policy at orientation, after any at-fault incident, and whenever a new vehicle/trailer type is added to the fleet.

Inspections, Documentation, and Records

- Retain MVR checks, driver license verification, vehicle/trailer inspection logs, maintenance records, and incident reports.

Key References

DOT/FMCSA requirements where applicable; state motor vehicle law; OSHA General Duty Clause.

29. Signs, Barricades, and Work Zone Control

Purpose and Scope

Protect employees and the public around open panels, excavations, ladders, and equipment staged in driveways, parking lots, or near traffic.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Work areas that create a trip, fall, or struck-by exposure to the public or other trades are barricaded, coned, or signed before work begins.
- Work performed near vehicle traffic (driveways, parking lots, streets) uses high-visibility apparel and appropriate traffic control devices for the exposure.
- Open panels, floor/roof openings, and excavations are never left unattended without a physical barrier or cover.

Required Procedure

1. Assess public/traffic exposure before starting work.
2. Set up barricades, cones, or signage appropriate to the exposure.
3. Maintain the work zone throughout the task; remove it only when the hazard is gone.

Training and Competency

- Employees are trained on work-zone setup appropriate to residential, commercial, and roadway-adjacent sites.

Inspections, Documentation, and Records

- Note work-zone setup on the JHA for sites with public/traffic exposure.

Key References

29 CFR 1926 Subpart G; MUTCD (where road right-of-way work applies).

30. Substance Abuse Policy

Purpose and Scope

Maintain a drug- and alcohol-free workplace to protect employees performing electrical and safety-sensitive work.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Employees may not perform work for LT Solutions while impaired by alcohol, illegal drugs, or any substance (including some prescriptions/OTC medication) that affects safe job performance.
- Post-incident and reasonable-suspicion testing may be required consistent with applicable state law.
- Employees are expected to disclose to their Supervisor any prescription/OTC medication that could impair safe performance of safety-sensitive tasks.

Required Procedure

1. Remove an employee showing signs of impairment from safety-sensitive work immediately.
2. Arrange safe transportation; do not allow the employee to drive if impairment is suspected.
3. Follow the post-incident/reasonable-suspicion testing process where applicable and document the event.

Types of Testing

- Pre-employment — conducted as a condition of a job offer for safety-sensitive positions, consistent with applicable state law.
- Reasonable suspicion — conducted when a Supervisor observes specific, documented behavior or physical signs consistent with impairment.
- Post-incident — conducted after a workplace accident or injury meeting the criteria set by this policy, such as a vehicle accident or an injury requiring more than basic first aid.

- Random — where used, selection is made by a neutral, verifiable method rather than by a Supervisor's discretion.

Training and Competency

- Employees are informed of this policy at orientation and acknowledge it in writing.

Inspections, Documentation, and Records

- Retain acknowledgments and any testing/incident documentation per applicable state law and confidentiality requirements.

Key References

Applicable Kansas state law; OSHA General Duty Clause; DOT rules where applicable to CDL drivers.

31. Injury and Illness Recordkeeping

Purpose and Scope

Maintain accurate OSHA-required injury and illness records as LT Solutions grows.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Recordable injuries and illnesses are entered on the OSHA 300 Log within 7 calendar days of notification, when the company meets recordkeeping thresholds.
- The OSHA 300A Summary is posted from February 1 to April 30 each year at the shop/break area when required.
- Employees have the right to review recordkeeping logs per OSHA access rules.

Required Procedure

1. Determine recordability of each reported injury/illness per OSHA criteria.
2. Enter recordable events on the 300 Log within the required window.
3. Prepare and post the 300A Summary annually when required; submit Form 300A electronically if the company meets the establishment-size/industry threshold.

OSHA Recordability Quick Reference

- An injury or illness is generally recordable if it results in: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or a significant injury/illness diagnosed by a physician or licensed health care professional.

- First aid (as OSHA narrowly defines it — e.g., a bandage, a single dose of over-the-counter medication, cleaning a wound) does not by itself make a case recordable; treatment beyond that scope generally does.
- Every work-related fatality, hospitalization, amputation, and loss of an eye is recordable and also independently reportable to OSHA on the accelerated timeline in Section 5, regardless of any question about the 300 Log.

Training and Competency

- The recordkeeping-responsible person is trained on OSHA 1904 criteria.

Inspections, Documentation, and Records

- Retain OSHA 300, 300A, and 301 records for 5 years.

Key References

29 CFR 1904.

32. Light Duty and Return-to-Work

Purpose and Scope

Support an injured employee's safe, timely return to work within medical restrictions.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Light-duty or modified-duty work is offered where available and consistent with the employee's medical restrictions.
- Any return-to-work is based on written medical clearance/restrictions from the treating provider.
- Restrictions are reviewed with the employee and Supervisor before the employee resumes any safety-sensitive task.

Required Procedure

1. Obtain written medical restrictions before return to work.
2. Identify light-duty tasks consistent with those restrictions, or coordinate continued leave if none are available.
3. Review progress with the employee and provider until full duty is released.

Training and Competency

- Supervisors are briefed on this process as part of incident-response training.

Inspections, Documentation, and Records

- Retain medical restriction documentation confidentially, separate from the personnel file.

Key References

29 CFR 1904; applicable ADA/workers' compensation requirements.

33. Training Programs, Records, and Certifications

Purpose and Scope

Ensure every employee has the training and certification required for the tasks they perform, and that records prove it.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- New-hire orientation covers this manual's core policies before an employee is assigned unsupervised field work.
- Task-specific training (electrical Qualified Person, LOTO, ladders, fall protection, confined space, excavation competent person, aerial platforms) is completed and documented before an employee performs that task independently.
- Refresher training occurs at the interval required by the specific policy, after an incident, or after a procedure/equipment change.
- State electrical licensure/apprenticeship requirements are tracked and kept current for employees performing licensed electrical work.

Required Procedure

1. Identify required training for the employee's role and assigned tasks.
2. Schedule and document initial training before independent work begins.
3. Track refresher/recertification due dates and complete them on schedule.

Electrical Qualification Progression

- New electrical employees typically progress from an apprentice/helper level (working only under direct oversight of a Qualified Person, not independently exposed to energized parts) to a fully Qualified Person for specific tasks as their training and demonstrated skill grow.

- Advancement to Qualified Person status for a given task is a documented decision by ownership/the Field Supervisor based on completed training and observed competency — it is not automatic based on tenure alone.
- Kansas electrical licensing/apprenticeship milestones are tracked alongside internal Qualified Person designations, since the two are related but not identical: state licensure governs what work an individual may legally perform, while Qualified Person status under this manual and NFPA 70E governs what electrical hazards they may be exposed to and how.

Training Matrix by Role (Example)

Role	Core Training Required	Refresher Interval
All field employees	Orientation (Section 1–3), PPE, HazCom, electrical awareness	Annual toolbox talks
Apprentice/Helper	Above, plus ladders, hand/power tools, fall protection user	Annual
Qualified Electrical Person	Above, plus NFPA 70E work practices, LOTO authorized, arc-flash PPE selection	Every 3 years or after incident/procedure change
Field Supervisor	Above, plus JHA development, incident investigation, LOTO periodic inspection	Annual
Drivers	Vehicle/fleet policy, MVR on file	Annual review, MVR check

Training and Competency

- N/A — this section governs the training program itself.

Inspections, Documentation, and Records

- Maintain a training matrix by employee and task, with certificates, sign-in sheets, and due dates for renewal.

Key References

Applicable OSHA training requirements referenced throughout this manual; Kansas electrical licensing requirements.

34. Subcontractor and Multi-Employer Worksite Safety

Purpose and Scope

Set expectations for subcontractors and manage shared-site hazards when LT Solutions works alongside other trades or as a subcontractor to a general contractor.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.

- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Subcontractors are expected to meet this manual, applicable law, and any stricter site/client requirement before starting work.
- LT Solutions communicates hazards it creates to other employers on a shared site and expects the same in return.
- The controlling employer/general contractor's site rules and permit systems (hot work, confined space, LOTO) are followed in addition to this manual.

Required Procedure

1. Confirm site-specific rules and required permits before mobilizing to a multi-employer site.
2. Communicate LT Solutions' work scope and hazards to other trades/GC as appropriate.
3. Coordinate energy control, access, and housekeeping with other employers present.

Training and Competency

- Employees are briefed on multi-employer coordination expectations as part of orientation.

Inspections, Documentation, and Records

- Retain site-specific orientation/sign-in records for multi-employer jobs.

Key References

OSHA Multi-Employer Worksite Policy (CPL 02-00-124); 29 CFR 1926.16.

35. Waste Disposal and Environmental/Spill Prevention

Purpose and Scope

Manage electrical waste (wire, ballasts, batteries) and prevent spills from vehicles/equipment.

Responsibilities

- Ownership (Partners) provide the resources, equipment, and time needed to work safely; set policy; and hold managers accountable for implementation.
- The Field Supervisor/Foreman adapts this policy to each job, verifies inspections and training, coordinates with clients and controlling employers, and corrects unsafe conditions.
- Designated Qualified/Competent Persons perform the assessments and approvals this policy assigns to them and may stop work when controls are missing or ineffective.
- Employees and technicians follow training and manufacturer instructions, inspect tools and equipment before use, report hazards and incidents, and may exercise stop-work authority without fear of retaliation.
- Subcontractors and vendors remain responsible for their own employees and must meet this manual, applicable law, and any stricter site or client requirement.

Minimum Requirements

- Scrap wire, fluorescent/HID lamps, ballasts (potential PCB content in older units), and batteries are collected and disposed of/recycled through an appropriate licensed facility, not general trash where regulated.
- Vehicles and equipment are checked for fluid leaks; spill materials (absorbent, containment) are carried on service vehicles.
- Any spill is contained and cleaned up promptly; spills that reach a storm drain or waterway are reported per applicable environmental regulation.

Required Procedure

1. Segregate regulated waste (lamps, ballasts, batteries) from general trash.
2. Arrange disposal/recycling through a licensed handler.
3. Contain and clean up any spill immediately using onboard spill materials; report significant spills per regulation.

Training and Competency

- Employees are briefed on regulated-waste handling relevant to electrical work at orientation.

Inspections, Documentation, and Records

- Retain waste disposal/recycling manifests and any spill report.

Key References

40 CFR (EPA) as applicable to lamp/PCB/battery disposal; state environmental regulations.

36. Forms and Implementation Checklists

The following forms support this manual. Current versions are maintained at the shop and provided to field crews; forms are updated as the company adds services or equipment types.

- Ladder Inspection Form (SAF-LAD-001-F1)
- Job Hazard Analysis (JHA) / Daily Pre-Task Plan (Appendix H)
- Incident/Near-Miss Report Form (Appendix I)
- Energized Electrical Work Permit (Appendix A)
- Lockout/Tagout Permit and Equipment-Specific Procedure Template (Appendix B)
- Lockout Device Removal — Cut-Lock Documentation Form (Appendix C)
- Confined Space Entry Permit
- Fall Protection Rescue Plan Worksheet (Appendix D)
- PPE Hazard Assessment Form
- New-Hire Safety Orientation Checklist (Appendix G)
- Vehicle Pre-Trip / Post-Trip Inspection Checklist (Appendix E)
- Toolbox Talk Attendance Log (Appendix J)
- Annual Toolbox Talk Topic Calendar (Appendix K)
- Training and Certification Tracking Matrix
- OSHA 300 / 300A / 301 Recordkeeping Forms

37. Employee Acknowledgment

I acknowledge that I have received, read (or had read to me), and understand the LT Solutions Company Safety Manual (SAF-MAN-001). I understand that I am responsible for following this manual, that I have stop-work authority for unsafe conditions, and that I may ask my Supervisor questions about any part of this manual at any time.

Employee Name (print): _____

Employee Signature: _____

Date: _____

Supervisor Name (print): _____

Supervisor Signature: _____

Date: _____

Appendix A: Energized Electrical Work Permit

Completed by the Qualified Person and approved by the Supervisor before any energized electrical work begins, per Section 8.

- Job/Location: _____
- Description of circuit/equipment to be worked on energized:
  _____
- Justification for why the work cannot be de-energized:
  _____
- Results of shock risk assessment (voltage, approach boundaries):
  _____
- Results of arc-flash risk assessment (PPE category or incident energy, arc-flash boundary):
  _____
- Required PPE for this task: _____
- Job briefing completed with crew: ☐ Yes Means used to restrict unqualified persons:
  _____
- Qualified Person (print/sign): _____ Date: _____
- Supervisor Approval (print/sign): _____ Date: _____

Appendix B: Lockout/Tagout Permit and Equipment-Specific Procedure Template

Used for equipment with more than one energy source or a non-obvious isolation sequence, per Section 9.

- Equipment description/location: _____
- Energy source(s) and magnitude (electrical, mechanical, stored, etc.):
  _____
- Location and type of each isolating device: _____
- Steps to shut down and isolate (in order):
  _____
  _____
  _____
  _____
  _____
  _____
  _____
  _____
  _____
- Method to verify zero-energy state: _____
- Method to relieve stored/residual energy: _____
- Authorized employee(s) and lock/tag numbers applied:
  _____
- Group lockout box/hasp used: ☐ Yes ☐ No
- Date/time isolated: _____ Date/time restored: _____
- Authorized Employee (print/sign): _____ Date: _____

Appendix C: Lockout Device Removal — Cut-Lock Documentation Form

Completed any time a lock is removed by someone other than the employee who applied it, per Section 9.

- Equipment/location: _____
- Employee who applied the original lock: _____
- Reason the employee was unavailable to remove it personally:
  _____
- Attempts made to contact the employee (who/when/result):
  _____
- How the equipment's safe condition was verified before removal:
  _____
- Method of removal (e.g., bolt cutters): _____
- Removal performed by (Supervisor/Qualified Person, print/sign): _____
  Date/time: _____
- Witness (print/sign): _____
- Original employee notified of removal on (date/time): _____ By whom:
  _____

Appendix D: Fall Protection Rescue Plan Worksheet

Completed before fall-arrest equipment is used on a job, per Section 14.

- Job/location and description of elevated work: _____
- Fall protection method used (restraint/arrest) and equipment: _____
- Anchor point location and rating/basis: _____
- Total fall clearance available below the work area: _____
- Rescue method (self-rescue / assisted rescue / emergency service) and who is trained to perform it: _____
- Nearest emergency medical facility and estimated response time: _____
- Reviewed with crew by (print/sign): _____ Date: _____

Appendix E: Vehicle Pre-Trip / Post-Trip Inspection Checklist

Completed before the first trip of the day and reviewed at end of day, per Section 28.

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Appendix F: Arc Flash PPE and Approach Boundary Quick Reference

A quick-reference summary only — always confirm against the current NFPA 70E and equipment labeling before energized work (Section 10).

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Appendix G: New-Hire Safety Orientation Checklist

Completed for every new employee before they are assigned unsupervised field work, per Section 33.

- ☐ Safety Policy and Leadership Commitment (Section 1) reviewed and signed
- ☐ Stop-Work Authority (Section 2) explained
- ☐ JHA/pre-task planning process (Section 3) demonstrated
- ☐ Ladders and access (Section 4) — hands-on inspection demonstrated
- ☐ Incident reporting process (Section 5) explained, including who to call
- ☐ Electrical Safety-Related Work Practices (Section 8) — awareness level for all employees; Qualified Person training scheduled if applicable
- ☐ Lockout/Tagout (Section 9) — awareness level for all employees; authorized employee training scheduled if applicable
- ☐ PPE issued and fitted (Section 11), including arc-rated clothing if applicable
- ☐ Fall protection equipment issued and inspected, harness fit checked (Section 14)
- ☐ Vehicle policy reviewed, MVR check completed, vehicle/trailer walkthrough completed (Section 28)
- ☐ Substance Abuse Policy (Section 30) reviewed and signed
- ☐ Employee Acknowledgment (Section 37) signed
- New Employee (print/sign): _____ Date: _____
- Supervisor (print/sign): _____ Date: _____

Appendix H: Job Hazard Analysis (JHA) Template

Completed before work begins on every job and updated when scope or conditions change, per Section 3.

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Appendix I: Incident/Near-Miss Report Form

Completed the same shift as any injury, illness, near miss, or property damage event, per Section 5.

- Date/time of event: _____ Location: _____
- Employee(s) involved: _____
- Description of what happened: _____
- Injury/illness/near-miss/property damage (circle all that apply)
- Immediate cause: _____ Root cause: _____
- First aid rendered/medical treatment sought: _____
- OSHA-reportable (fatality, hospitalization, amputation, loss of eye)? ☐ Yes ☐ No — if yes, report submitted by/date: _____
- Corrective action(s) and owner: _____
- Reported by (print/sign): _____ Date: _____

Appendix J: Toolbox Talk Attendance Log

Completed each time a toolbox talk is delivered, per Sections 1 and 33.

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Appendix K: Annual Toolbox Talk Topic Calendar

A suggested weekly toolbox-talk rotation tying each talk back to a section of this manual. Supervisors may reorder topics to match seasonal conditions or a recent incident/near miss.

Week	Topic	Manual Section
1	Stop-work authority and no-retaliation	2
2	Ladder inspection and setup	4
3	Test-before-touch and de-energizing	8
4	Lockout/Tagout basics — applying your lock	9
5	What to do if you can't find the key (cut-lock procedure)	9
6	Arc-flash boundaries and reading equipment labels	10
7	Voltage-rated glove care and inspection	10
8	PPE selection for today's task	11
9	GFCI protection and cord/tool inspection	12
10	Fall protection hierarchy — restraint vs. arrest	14
11	Anchor points: what's rated, what isn't	14
12	Calculating fall clearance before you connect	14
13	Roof and skylight hazards	14
14	Suspension trauma and rescue timing	14
15	Trenching: calling 811 and soil hazards	16
16	Confined space: vaults, manholes, and testing	7
17	Heat illness recognition (spring refresher)	20
18	Hearing protection on drilling/grinding tasks	19
19	Housekeeping and cord management	22
20	Fire extinguisher use and hot work	23
21	Electrical shock emergency response	24
22	First aid kit contents and CPR/AED refresh	25

Week	Topic	Manual Section
23	Aerial platform pre-start inspection	6
24	Minimum approach distances near power lines	6
25	Vehicle pre-trip inspection walk-through	28
26	Towing the security trailer safely	28
27	Distracted driving and phone policy	28
28	Backing safely with a trailer attached	28
29	Severe weather driving	28
30	Motor vehicle accident response steps	28
31	Signs, barricades, and work-zone setup	29
32	Hazard communication and reading an SDS	17
33	Respiratory protection for dust-generating tasks	18
34	Ergonomics — cable pulling and mechanical aids	21
35	Substance abuse policy refresher	30
36	Reporting near misses without fear of blame	5
37	Cold-weather driving and work precautions	20/28
38	Waste disposal — lamps, ballasts, batteries	35
39	Scaffolding and podium platform setup	15
40	Powered industrial truck pre-use inspection	26
41	Rigging and tag-line use	27
42	Subcontractor coordination on shared sites	34
43	Cutting/drilling fire watch requirements	13
44	Return-to-work and light duty basics	32
45	New hire orientation refresher for the crew	33
46	Job briefings before energized work	8
47	Group lockout on multi-craft jobs	9

Week	Topic	Manual Section
48	Equipment labeling and updating panel directories	8
49	Recognizing suspension trauma symptoms (recap)	14
50	Winter PPE and cold stress	20
51	Year-end incident trends review	5
52	Manual refresher and open Q&A	All

Appendix L: Confined Space Entry Permit

Completed before entry into any permit-required confined space (electrical vaults, manholes, crawlspaces), per Section 7.

- Space/location: _____ Date/time of entry: _____ Expected duration: _____
- Purpose of entry: _____
- Atmospheric test results — Oxygen: _____% Flammability: _____% LEL Toxics: _____
- Hazards identified and controls in place: _____
- Isolation/LOTO completed (if applicable): ☐ Yes ☐ N/A
- Entrant(s): _____
- Attendant: _____
- Rescue plan/method: _____
- Entry Supervisor (print/sign): _____ Date/time opened: _____
- Permit closed by (print/sign): _____ Date/time closed: _____

Appendix M: PPE Hazard Assessment Form

Completed for each task type to document the PPE hazard assessment required by Section 11.

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Appendix N: Worked Example — Equipment-Specific Lockout Procedure

A completed example of the Appendix B template, provided for training purposes.

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Appendix O: Worked Example — Energized Electrical Work Permit

A completed example of the Appendix A permit, provided for training purposes.

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Appendix P: Manual Section to Regulatory Standard Cross-Reference

A consolidated index mapping every numbered policy section in this manual to its key regulatory references, useful for audits and client pre-qualification questionnaires.

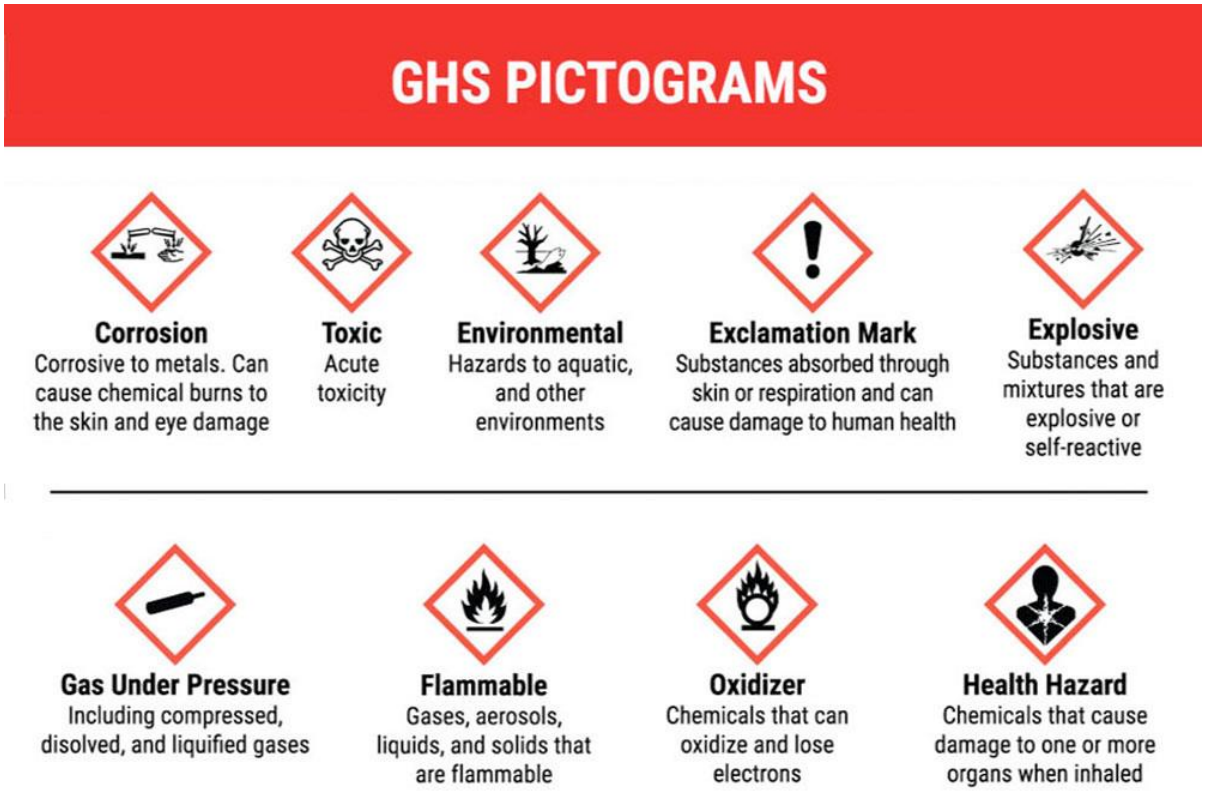
#	Section	Key References
1	Safety Policy and Leadership Commitment	29 CFR 1926.20–.21; OSHA Recommended Practices for Safety and Health Programs; ANSI/ASSP Z10.
2	Roles, Stop-Work Authority, and Communication	29 CFR 1926.20; OSHA Whistleblower Protection (Section 11(c)) of the OSH Act.
3	Safety and Health Program Administration	29 CFR 1926.20–.21 and 1910 Subpart C; OSHA multi-employer worksite policy (CPL 02-00-124); ANSI/ASSP Z10.
4	Access, Egress, and Ladders	29 CFR 1910.23; 1926.1053; 1926.1060; NFPA 70E.
5	Accident/Incident Reporting and Investigation	29 CFR 1904 (Recording and Reporting); 1904.39 (severe injury reporting).
6	Aerial Work Platforms and Bucket Trucks	29 CFR 1926.453; ANSI/SAIA A92 series; NFPA 70E for line-clearance distances.
7	Confined Space Entry	29 CFR 1910.146; 29 CFR 1926 Subpart AA.
8	Electrical Safety-Related Work Practices	NFPA 70E (current edition); 29 CFR 1910 Subpart S; 29 CFR 1926 Subpart K; NFPA 70 (National Electrical Code).
9	Lockout/Tagout — Control of Hazardous Energy	29 CFR 1910.147; NFPA 70E Article 120 (Establishing an Electrically Safe Work Condition).
10	Arc Flash Risk Assessment, Boundaries, and PPE Categories	NFPA 70E Article 130 and its PPE category tables; ASTM D120 (rubber insulating gloves); 29 CFR 1910.335.
11	Personal Protective Equipment	29 CFR 1910.132–.138; ANSI Z87.1 (eye), ANSI Z89.1 (head), NFPA 70E.
12	Hand Tools and Portable Power Tools	29 CFR 1926.404 (GFCI); 1926 Subpart I (Hand and Power Tools).
13	Cutting, Drilling, and Hot Work	29 CFR 1926 Subpart J (Welding and Cutting); 29 CFR 1926.1153 (Silica).
14	Fall Protection	29 CFR 1926 Subpart M; ANSI/ASSP Z359 series.
15	Scaffolding and Elevated Work Platforms	29 CFR 1926 Subpart L.

#	Section	Key References
16	Trenching and Excavation	29 CFR 1926 Subpart P.
17	Hazard Communication	29 CFR 1910.1200.
18	Respiratory Protection	29 CFR 1910.134; 1926.1153 (Silica).
19	Hearing Conservation	29 CFR 1910.95; 1926.52 and 1926.101.
20	Heat Stress and Cold Stress	OSHA General Duty Clause (Section 5(a)(1)); OSHA Heat Illness Prevention guidance.
21	Ergonomics	OSHA General Duty Clause; NIOSH lifting guidance.
22	Housekeeping and Material Storage	29 CFR 1926.25; 1910.22.
23	Fire Prevention and Protection	29 CFR 1926 Subpart F; NFPA 10 (Portable Fire Extinguishers).
24	Emergency Preparedness and Evacuation	29 CFR 1926.35; OSHA General Duty Clause.
25	First Aid, CPR, and AED	29 CFR 1926.23–.25 (First Aid); ANSI Z308.1 (kit contents).
26	Powered Industrial Trucks	29 CFR 1910.178.
27	Rigging, Hoisting, and Material Handling	29 CFR 1926 Subpart CC/H; ASME B30 series.
28	Vehicle and Fleet Safety	DOT/FMCSA requirements where applicable; state motor vehicle law; OSHA General Duty Clause.
29	Signs, Barricades, and Work Zone Control	29 CFR 1926 Subpart G; MUTCD (where road right-of-way work applies).
30	Substance Abuse Policy	Applicable Kansas state law; OSHA General Duty Clause; DOT rules where applicable to CDL drivers.
31	Injury and Illness Recordkeeping	29 CFR 1904.
32	Light Duty and Return-to-Work	29 CFR 1904; applicable ADA/workers' compensation requirements.
33	Training Programs, Records, and Certifications	Applicable OSHA training requirements referenced throughout this manual; Kansas electrical licensing requirements.
34	Subcontractor and Multi-Employer Worksite Safety	OSHA Multi-Employer Worksite Policy (CPL 02-00-124); 29 CFR 1926.16.
35	Waste Disposal and Environmental/Spill Prevention	40 CFR (EPA) as applicable to lamp/PCB/battery disposal; state environmental regulations.

Appendix Q: GHS Hazard Pictogram Quick Reference

Used to read product labels and Safety Data Sheets under the Hazard Communication program (Section 17).

Pictogram Meaning	Typical Hazard
Flame	Flammable liquids, gases, or aerosols
Exclamation Mark	Irritant, skin sensitizer, or acute toxicity (lower hazard)
Health Hazard	Carcinogen, respiratory sensitizer, or other serious long-term health effect
Corrosion	Causes skin/eye burns or corrodes metal
Gas Cylinder	Gas under pressure — may explode if heated
Exploding Bomb	Explosive or self-reactive material
Skull and Crossbones	Acute toxicity — can be fatal or cause serious harm in small amounts
Environment (non-mandatory in the US)	Aquatic toxicity / environmental hazard



Appendix R: Worked Example — Completed Job Hazard Analysis

A completed example of the Appendix H template, provided for training purposes.

Insert here

Appendix S: Fleet Vehicle Maintenance Log

Insert here

Glossary of Key Terms

Terms used throughout this manual, particularly in the electrical, lockout/tagout, arc-flash, and fall-protection sections.

Authorized Employee — An employee who locks out or tags out equipment to perform service or maintenance on it.

Affected Employee — An employee whose job requires operating equipment being serviced, or who works in the area, but who does not perform the lockout.

Arc-Flash Boundary — The distance from a potential arc source within which arc-rated PPE is required because of the risk of a second-degree burn.

Arc Rating — The maximum incident energy a piece of PPE can withstand before transferring enough heat to cause a burn injury.

Competent Person — An individual capable of identifying existing and predictable hazards in their assigned area and authorized to take prompt corrective action.

Controlling Employer — The employer with overall responsibility for a multi-employer worksite, typically the general contractor.

Deceleration Distance — The additional distance traveled while a fall-arrest shock absorber is slowing a worker to a stop.

Electrically Safe Work Condition — A state in which equipment has been de-energized, locked/tagged, and tested to verify absence of voltage.

Energy-Isolating Device — A mechanical device that physically prevents transmission or release of energy, such as a breaker or disconnect.

Fall Arrest — A system that stops a fall already in progress.

Fall Restraint — A system that prevents a worker from reaching a fall hazard.

GFCI (Ground-Fault Circuit Interrupter) — A device that shuts off power when it detects current leaking to ground, protecting against shock from cord-connected tools.

Hot Work — Work involving open flame or a source of ignition, such as torch cutting or grinding, that requires fire-prevention precautions.

Incident Energy — The thermal energy a person could be exposed to during an arc-flash event, measured in cal/cm², used to select PPE.

Job Hazard Analysis (JHA) — A documented process for identifying hazards on a task and the controls used to reduce risk before work begins.

Limited Approach Boundary — The distance from exposed energized parts within which only Qualified Persons (or escorted others) may cross.

Lockout Device — A device (e.g., padlock) that uses positive means to hold an energy-isolating device in a safe position.

Motor Vehicle Record (MVR) — A driver's official state-maintained driving history, checked at hire and periodically for employees who drive company vehicles.

Permit-Required Confined Space — A confined space with limited entry/exit that contains or could contain a hazardous atmosphere, engulfment risk, or other serious hazard, requiring a written entry permit.

PPE Category — A simplified classification mapping common electrical tasks/equipment to a minimum required PPE level.

Qualified Person — A person with the skills, knowledge, and documented training to safely perform a specific electrical task.

Restricted Approach Boundary — The closer distance from exposed energized parts requiring additional PPE and a documented risk assessment.

Safety Data Sheet (SDS) — A standardized document describing a chemical's hazards, safe handling, and emergency measures.

Suspension Trauma — A dangerous drop in blood flow that can occur when a worker hangs motionless in a fall-arrest harness for an extended time, making rapid rescue critical.

Tagout Device — A prominent warning tag applied to an energy-isolating device to indicate it may not be operated, used only where lockout isn't feasible and equivalent protection is otherwise achieved.

Total Fall Clearance — The vertical distance needed below a work surface to safely arrest a fall without contacting a lower level.

Unqualified Person — Anyone who does not meet the definition of Qualified Person for the specific electrical task at hand.

Regulatory Reference Index

This manual is built to the following minimum standards. Where a standard is revised, the current edition applies; where a client site imposes a stricter requirement, the site requirement governs for that job. Appendix P cross-references every numbered section of this manual to its specific citations.

OSHA General Industry Standards — 29 CFR 1910 — Covers general workplace safety and health requirements, including electrical safety-related work practices, PPE, HazCom, and respiratory protection.

OSHA Construction Industry Standards — 29 CFR 1926 — Applies to construction activity, including fall protection, excavation, ladders, scaffolding, and electrical work performed as part of construction/installation.

OSHA Recordkeeping — 29 CFR 1904 — Governs how work-related injuries and illnesses are recorded, reported, and posted.

NFPA 70E — Standard for Electrical Safety in the Workplace (current edition) — The primary source for LT Solutions' electrical safety program: shock and arc-flash risk assessment, approach boundaries, PPE selection, and electrically safe work condition procedures.

NFPA 70 — National Electrical Code (as adopted by applicable jurisdiction) — Governs the installation requirements for the electrical systems LT Solutions installs and services.

NFPA 10 — Standard for Portable Fire Extinguishers — Sets placement, inspection, and maintenance requirements for extinguishers carried on vehicles and job sites.

ANSI/ASSP Z10 — Occupational Health and Safety Management Systems — Provides the framework this manual's program-administration section (Section 3) is built around.

ANSI/ASSP Z359 — Fall Protection Code — Sets design, performance, and use criteria for the fall-arrest and restraint equipment used in Section 14.

ANSI Z87.1 — Eye and Face Protection — Sets performance criteria for the safety glasses, goggles, and face shields required under Section 11.

ANSI Z89.1 — Head Protection — Sets performance criteria for hard hats required under Section 11.

ANSI/SAIA A92 — Mobile Elevating Work Platforms — Sets design and safe-use criteria for the bucket trucks and aerial lifts used under Section 6.

ASME B30 — Rigging and Hoisting — Sets safe-use criteria for the rigging hardware used under Section 27.

ASTM D120 — Rubber Insulating Gloves — Sets the voltage class ratings for the insulating gloves referenced in Section 10.

Kansas state electrical licensing and contractor requirements — Governs who may legally perform and supervise electrical work for LT Solutions, tracked alongside internal Qualified Person status under Section 33.