



AEIC

EST 1885

Safety Subcommittee: Best Practices for Electric Utilities

Prepared by the AEIC Safety Team

© AEIC 2025. All Rights Reserved.

Overview

The AEIC Safety Benchmarking Subcommittee is an operational benchmarking forum for members across electric sector organizations to share best practices and gather insights on work methods, procedures, training, tools and technology, and culture-based activities that aim to mitigate and reduce occupational health and safety (OHS) risks.

Members identify benchmarking topics and facilitate review and discussion of the learnings in monthly meetings. Upon request, the Subcommittee will also coordinate in-depth peer reviews of member safety programs by independent teams comprising safety professionals from other member organizations and develop a forum for timely sharing of actual significant safety incident information including causal analysis and corrective actions.

The Subcommittee will maintain a central repository for benchmarking efforts, educational material, use cases, best practices, and other reference materials and provide a progress report and upcoming strategic initiatives at the AEIC Annual Meeting.

Subgroups – Best Practices

Leadership Engagement

Leadership engagement is a comprehensive approach to safety and involves regular communication, recognition, and proactive measures led by senior leadership (e.g. Sr. Vice President), organizational leadership (e.g. Vice Presidents and General Managers/Directors) and local leadership (e.g. managers and supervisors). Regular engagement with field supervision and field forces by leadership at all levels reinforces the need for a consistent focus on safety. Involving all levels of the organization, we ensure that safety remains an integral part of a company's culture and operations through the active involvement and commitment of leaders in guiding, motivating, and inspiring their teams toward shared goals and objectives. It encompasses a range of actions and behaviors demonstrated by leaders that foster a culture of collaboration, accountability, and trust within an organization.

Some key aspects of effective leadership engagement in the world of safety:

1. **Building Trust:** Leaders need to earn the trust of their employees by being transparent, consistent, and approachable. Trust encourages employees to speak up about hazards or unsafe practices without fear of reprisal.
2. **Treating Everyone as Unique:** Recognizing and respecting the individual skills and perspectives of each employee is essential. This approach helps in creating an inclusive environment where everyone feels valued.
3. **Providing Support and Feedback:** Leaders should offer continuous support, constructive feedback, and guidance to help employees improve their safety practices. This involves being invested in their success and working collaboratively to achieve safety goals.
4. **Promoting a Safety Culture:** Safety leaders go beyond enforcing policies; they actively promote a culture where safety is ingrained in every aspect of the organization. This includes providing training, resources, and encouraging proactive safety measures.
5. **Listening and Acting on Feedback:** Effective leaders listen to their employees' concerns, act on their feedback and communicate actions taken to close the loop. This not only improves safety practices but also empowers employees to take ownership of their safety.
6. **Active Interaction:** Engaging with employees means more than just sending emails or memos. Leaders should interact directly with their teams, whether through face-to-face meetings, phone calls, or virtual meetings.
7. **Skip Level Leader engagements:** Engaging with leadership more than one level below helps to obtain a feel for the safety culture and allows you to set safety leadership expectations.

It is in the area of “active interaction” where we can provide some tactical suggestions that lead to increased engagement and a stronger safety culture.

Weekly/Bi-Weekly

Responsible Leader(s): Local Leadership

Target Audience: Field Supervision

- At the beginning of each week, Leadership convenes for a roundtable safety call. This critical meeting serves as a platform to discuss any safety-related incidents from the prior week, analyze lessons learned, and outline safety focal points for the current week. This proactive approach ensures that safety remains at the forefront of our operations.

Responsible Leader(s): Senior/Organizational Leadership

Target Audience: Local Leadership/Field Supervision

- On a bi-weekly or weekly basis, Senior/Organizational Leadership hosts a call to discuss safety incidents, operating errors, close calls, safety performance and objectives. Routine engagement helps build trust and demonstrates support and feedback.

Monthly

Responsible Leader(s): Organizational Leadership (General Managers) and Local Leadership

Target Audience: Field Forces

- Leadership conducts various observations, including field, dock, driving, and tailboard audits. These observations are designed to identify watchpoint areas and highlight safe practices. The data collected from these observations informs our safety strategies and ensures continuous improvement.
- Informal job observations can include high energy/STKY (Stuff That Kills You) discussions. “Management Day in the Field” is a concept that has been utilized to routinely encourage field engagement by leaders who don’t spend time in the field on a daily basis.
- Immediate recognition (e.g. in-person or a complimentary e-mail) with a nominal reward (e.g. gift card) for performance above and beyond, or strong demonstration of a safety mindset/work practice.

Responsible Leader(s): Organizational Leadership (General Managers) and Local Leadership

Target Audience: Field Forces

- Safety & Business Meetings – A safety and business meeting is a gathering of field employees and leadership where both safety and operational concerns are discussed. These meetings aim to ensure that safety is integrated into the overall operational or business strategy and daily operations, as well as sharing best practices, review key procedures or specifications and significant incidents.

Responsible Leader(s): Senior/Organizational Leadership

Target Audience: Organizational Leadership

- A Unified or Executive Safety Council, comprised of organizational leaders (VPs and General Managers), who set the priorities and direction of the safety program. The key is to capitalize on best practices, foster consistency across organizational lines and set the tone of engagement for the safety program.

Quarterly

Responsible Leader(s): Senior/Organizational Leadership

Target Audience: All organizational employees

Leadership hosts quarterly All-Hands meetings where safety is always a core message. These meetings are an opportunity for the entire organization to align safety priorities and understand the initiatives being taken to ensure a safe working environment.

Responsible Leader(s): Senior/Organizational Leadership

Target Audience: Local leadership and supervision

- The Executive or Senior Vice Presidents host a quarterly Leadership Expectations call with all people leaders, from frontline supervisors upwards. These calls are focused on safety, with speakers from Health & Safety, Work Methods, Training, Operations Supervisors, and other relevant departments depending on the theme. This consistent messaging underscores leaderships commitment to safety across all

levels of leadership, promotes a strong safety culture and demonstrates they are listening and open to feedback.

Annually

Responsible Leader(s): Senior/Organizational Leadership

Target Audience: All organizational employees

- Internal safety recognition awards are personally signed by the CEO, highlighting the importance placed on safety within our company. Significant safety achievements and milestones are celebrated at company-wide team meetings, which include presentations to the Board. This recognition not only honors individual and team efforts but also reinforces a culture of safety across the organization.
- Safety Excellence Awards and Safety Leadership Awards are presented annually by senior leadership.

As Needed/On Regular Basis

- In the event of a significant incident, such as a violation of a Cardinal Electric Safety Rule or Rule We Live By, Senior Leadership convenes with the operations supervisor and area operations director. This meeting serves to discuss the event, analyze what was learned, and determine necessary improvements or resources required. This open conversation fosters shared accountability and continuous improvement. Operations supervisors appreciate direct engagement and support from Senior Leadership.
- Immediate recognition of safety work behavior, close call submission/corrective action implementation.

Conclusion

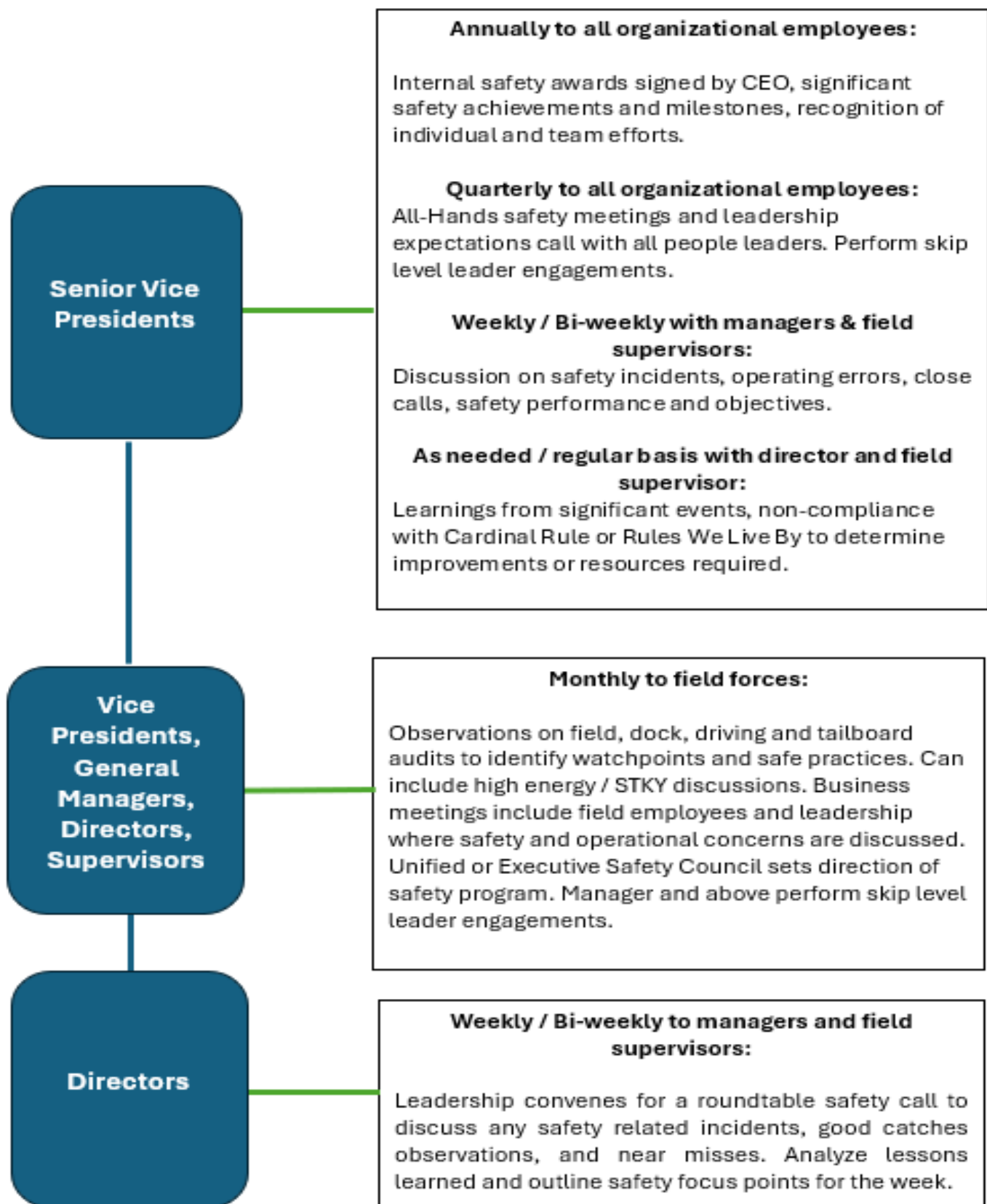
The leadership engagement framework outlined in this document demonstrates that effective safety culture requires systematic, multi-level commitment from all organizational leaders. Through structured communication cadences ranging from weekly safety roundtables to annual recognition ceremonies, organizations can create a comprehensive safety ecosystem that ensures continuous focus on safety performance.

The framework's strength lies in its multi-tiered approach, where Senior Leadership, Organizational Leadership (General Managers, Directors), and Local Leadership (Managers and Supervisors) each play distinct but interconnected roles. This creates multiple touchpoints for safety communication, from immediate recognition of safe behaviors to strategic safety planning at the executive level.

Key success factors include the use of comprehensive metrics beyond traditional OSHA Incident Rates through tools like the Safety Leadership Scorecard, proactive engagement through "Management Day in the Field" initiatives, and the integration of safety into business strategy through Safety & Business Meetings. The emphasis on immediate recognition, transparent communication, and shared accountability creates an environment where safety becomes ingrained in organizational culture rather than merely a compliance requirement.

Ultimately, this leadership engagement model transforms safety from a top-down mandate into a collaborative effort where all levels of the organization actively participate in creating and maintaining a strong safety culture through consistent, meaningful interactions and shared commitment to continuous improvement.

Ultimately, this leadership engagement model transforms safety from a top-down mandate into a collaborative effort where all levels of the organization actively participate in creating and maintaining a strong safety culture through consistent, meaningful interactions and shared commitment to continuous improvement.



Culture Objective and Implementation Plan

STKY Implementation Plan

Objective: Establish a safety program that identifies and controls high-energy hazards (STKY scenarios) to prevent fatalities and severe injuries, fostering a culture where mistakes can occur without catastrophic consequences.

Phase 1: Planning and Preparation (1-2 Months)

Goal: Lay the groundwork for a STKY program by aligning stakeholders, defining objectives, and customizing the approach to the organization's needs.

1. Stakeholder Engagement and Discovery

- **Action:** Conduct discovery sessions with leadership, safety managers, and frontline workers to understand the organization's unique hazards, processes, and safety culture.
 - Identify high-energy risks (e.g., electrical contact, falls, struck-by incidents, or heavy equipment failures) specific to the workplace.
 - Engage employees at all levels to foster trust and buy-in, to engage in a collaborative approach.
 - Determine Executive sponsor and Safety Champion
- **Outcome:** A clear understanding of organizational needs and a shared vision for the STKY program.

2. Define STKY Objectives and Metrics

- **Action:** Set measurable goals
- Example Metrics:
 - Employee participation rate in STKY discussions. (JSA/PJB)
 - Number of controls implemented for identified hazards.

- **Outcome:** A goal-based framework aligned with the organization's safety priorities in STKY.

3. Develop a STKY Framework

- **Action:** Adapt a STKY Model, which emphasizes building capacity to fail safely rather than solely preventing errors.
 - Focus on high-energy hazards (e.g., electrical, mechanical, or gravitational energy) that could cause severe injury or death.
 - Incorporate daily Job Safety Analysis (JSA) discussions to identify STKY scenarios and controls. (PBJ)
- **Outcome:** A tailored STKY framework that prioritizes proactive hazard identification and mitigation.

4. Select Implementation Approach

- **Action:** Choose between a “big bang” or phased rollout implementation strategy.
 - **Big Bang:** Launch STKY across all sites simultaneously for rapid adoption (suitable for smaller organizations or urgent needs).
 - **Phased Rollout:** Introduce STKY in stages (e.g., pilot in one department, then scale), allowing for iterative learning and reduced disruption.
- **Recommendation:** Use a phased approach to refine processes and address unforeseen challenges, emphasizing learning from mistakes.
- **Outcome:** A clear implementation strategy with timelines and milestones.

5. Resource Allocation

- **Action:** Allocate budget, personnel, and tools (e.g., safety training platforms, JSA templates) to support STKY. Assign dedicated safety coordinators or embedded project managers.

- **Outcome:** Allocate adequate resources to ensure effective execution.
-

Phase 2: Program Development and Training (2-3 Months)

Goal: Build the tools, processes, and skills needed to embed STKY into daily operations.

1. Develop STKY Discussion Protocols

- **Action:** Create guidelines for informal STKY discussions focusing on high-energy hazards rather than compliance-based safety talks.
 - **Example Protocol:**
 - Start each shift with a 10-minute crew discussion to identify STKY scenarios (e.g. What are the high energy hazards we have on site and what could kill us?)
 - Discuss existing controls (e.g., barriers, PPE, lockout/tagout) and evaluate if they are sufficient.
 - Encourage open dialogue without fear of punishment for errors, or controls not thought of. Align with HOP philosophy “no punishment for errors” to build a collaborative and trusting safety culture.
- **Outcome:** A standardized process for daily hazard identification.

2. Training and Capacity Building

- **Action:** Develop a training program. (In house or outsource)
 - Train employees in recognizing high-energy hazards and implementing controls.
 - Use scenario-based exercises to simulate STKY events and practice safe failure strategies.
 - Train supervisors to facilitate STKY discussions and foster a learning culture.
- **Outcome:** A workforce equipped to identify and manage STKY risks.

3. Create a STKY Toolkit

- **Action:** Develop tools to support STKY implementation, example: project toolkit.
 - JSA templates tailored to high-energy hazards.
 - Develop dashboards to track STKY scenarios and mitigation strategies.
 - Visual aids (e.g., posters, hazard maps) to reinforce STKY awareness.
- **Outcome:** Practical tools to integrate STKY into daily workflows.

4. Pilot Program

- **Action:** Launch a pilot in a single department or site to test the STKY framework.
 - Collect feedback on discussion protocols, training effectiveness, and tool usability.
 - Monitor pilot metrics (e.g., employee engagement).
- **Outcome:** Insights to refine the program before full rollout.

Phase 3: Implementation and Rollout (3-6 Months)

Goal: Deploy the STKY program across the organization, embedding it into operations.

1. Full Rollout

- **Action:** Implement STKY program across all sites, using lessons from the pilot.
 - Schedule regular STKY discussions as part of daily JSAs.
- Deploy safety coordinators to monitor adherence and provide support.
- **Outcome:** Organization-wide adoption of STKY practices.

2. Integrate with Existing Systems

- **Action:** Align STKY with existing safety programs (e.g., OSHA compliance, incident reporting) to avoid redundancy.
 - Incorporate STKY metrics into safety dashboards for real-time tracking.

- **Outcome:** Seamless integration with current safety processes.

3. Continuous Communication

- **Action:** Maintain open communication channels.
 - Share success stories (e.g., incidents prevented through STKY discussions, or incident prevented due to controls put in place from previous events and STKY near misses). These should be enterprise wide to reinforce the initiative.
 - Address resistance from employees or clients accustomed to compliance-based safety
 - **Outcome:** Sustained employee and stakeholder buy-in.
-

Phase 4: Monitoring and Continuous Improvement (Ongoing)

Goal: Evaluate STKY's effectiveness and refine the program to ensure long-term success.

1. Track Performance Metrics

- **Action:** Monitor key metrics, such as: (This metric should be in alignment with your culture.)
 - Employee participation in STKY discussions
 - Example: Pre-job brief Discussion around STKY
 - Number of new controls implemented for identifying hazards.
- **Outcome:** Data-driven insights into program effectiveness.

2. Lessons Learned Process

- **Action:** Implement a “lessons learned” process and incorporate in project reviews.
 - Conduct post-incident reviews to identify what worked and what failed.
 - Update STKY protocols based on findings.
- **Outcome:** A culture of continuous learning and improvement.

3. Sustainment and Scalability

- **Action:** Establish steering committees to oversee STKY governance.
 - Scale STKY to new sites or projects as the organization grows.
 - Regularly update training and tools to address emerging hazards.
- **Outcome:** A sustainable, adaptable safety program.

4. Annual Review and Adjustment

- **Action:** Conduct an annual review of the STKY program, looking for gaps in employee engagement and pre-job brief discussions.
 - Assess progress against goals and revise strategies as needed.
 - Incorporate employee feedback to maintain relevance.
- **Outcome:** A dynamic program that evolves with organizational needs.

Key Features

- **Capacity Model:** The STKY program assumes human error is inevitable and focuses on building capacity to fail safely through robust controls.
- **STKY Discussions:** Informal, crew-led discussions to identify high-energy hazards, avoiding compliance-based safety talks.
- **Learning Culture:** Emphasizes learning from mistakes without punishment, using the HOP principles. To achieve a trusting, collaborative culture.
- **Data-Driven Approach:** Tracks metrics and uses lessons learned to drive continuous improvement.
- **Stakeholder Collaboration:** Engages all levels of the organization to ensure buy-in.

Risk and Mitigation Strategies

- **Risk:** Resistance to cultural shift from compliance-based to capacity-based safety.

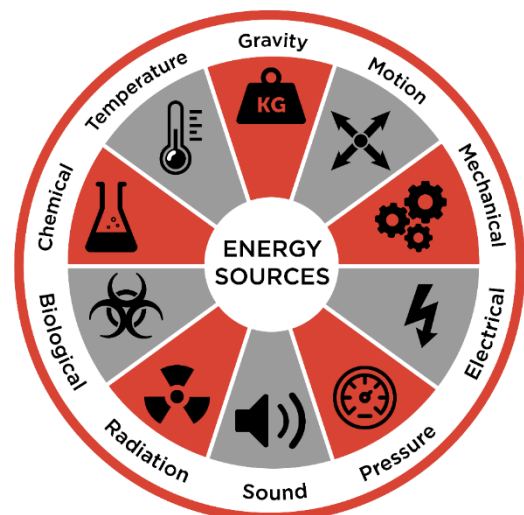
- **Mitigation:** Communicate benefits (e.g., reduced fatalities) and involve skeptics in pilot programs to demonstrate value.
- **Risk:** Inconsistent implementation across sites.
 - **Mitigation:** Use embedded safety coordinators and standardized tools to ensure uniformity.
- **Risk:** Insufficient training leading to poor adoption.
 - **Mitigation:** Leverage scenario-based training and regular refreshers.

Timeline Summary

- **Month 1-2:** Planning, stakeholder engagement, and framework development.
- **Month 3-5:** Program development, training, and pilot testing.
- **Month 6-11:** Full rollout and integration with existing systems.
- **Month 12+:** Ongoing monitoring, annual reviews, and continuous improvement.

Expected Outcomes

- A safety culture that focuses on high energy hazard identification and installing controls to mitigate or eliminate serious injury or fatality.
- Increased employee engagement in safety discussions.
- A safety culture that prioritizes learning and resilience, reducing fear of errors and enhancing hazard awareness.



Training

This paper defines and summarizes ongoing utility recommendations on Continuous Journeyman Training Project Plan. The AEIC Training Team is pleased to share their recommendations with the industry.

Continuous Journeyman Training syllabuses:

- Academies
- Compliance (Federally Mandated)
- New Equipment/Technology
- Technical
- Qualifications/Certifications
- Web Based

Academies

This is typically “soft skills” and company expectations. This type of training provides the utility an opportunity to list what their expectations are of their employees. The list below includes but is not limited to:

- Job brief writing
- Business acumen
- Resource management
- Crucial conversations
- Human & Organizational Performance (HOP)
- Leadership development
- Critical step/point of no return
- Work zone set up

Compliance (Federally Mandated)

This training can be found in the OSHA 1910 & 1926 standards. It is the minimum required training that must be completed by law. It has also been categorized as OSHA 10 (10 hours) & OSHA 30 (30 hours) training. The list below includes but is not limited to:

- Focus 4 (Caught-Between, Electrocution, Falls, Struck-By)
- Intro to OSHA
- Electrical Safety

- Temp. Protective Grounding
- Lifting & Rigging
- Personal Protective Equipment
- Job Briefings
- Trenching & Excavations
- Confined/Enclosed Spaces
- Fall Protection
- CPR, AED, First Aid
- Pole Top/Bucket/Self Rescue
- Forklift
- LOTO/Energy Isolation
- Environmental
- Fire Extinguisher

For each utility consulting with their internal Compliance department is necessary to determine what level and subject of training is required per job classification.

New Equipment/Technology

As a utilities technology evolves so does their equipment. Microprocessors replace mechanicals, different operating mediums are introduced as air and oil are phased out. Equipment must meet different capabilities because of increased customer loads and moving to carbon free energy sources are just a few examples. The list below includes but is not limited to:

- Underground (UG) equipment
- Microprocessor relaying
- Vacuum operated equipment
- Sulfur hexafluoride (SF6) operated equipment
- Intel-A-team switching
- Solar
- Wind
- Batteries

Commissioning new equipment and vendor lead instruction when new equipment is first delivered on the property is a good opportunity to

accomplish this. These are typically one-offs so thorough documentation of any new procedures is required.

Technical

Technical or Instructor Led training is conducted in a classroom or lab environment. It is PowerPoint (PPT) led with a hands-on component. A PPT is utilized to lead the audience through the theory and then it is followed by the application of the theory in a hands-on exercise. The list below includes but is not limited to:

- Print/one-line reading
- Equipotential Zones (EPZ)
- Live Line Tool applications
- Back feed
- Ferro resonance
- Safety Manual/Policy review with knowledge check
- Transformer connections
- Climbing
- Cover-up techniques
- Hot work methods
- Construction standards
- Fault finding
- Trouble shooting

Chosen subjects need to be able to address gaps, drift, approved work methods, and utility standards/best practices. This is an opportunity to set company standards with the utility's workforce. Class sizes should be limited to maximize discussion and the hands-on component. Selecting students from different areas for the classes is also beneficial to demonstrating that everyone is trained the same.

Qualifications/Certifications

This training can be a combination of OSHA and utility mandated. These are skills that require annual training and/or certifications. The list below includes but is not limited to:

- Crane certification

- Equipment certifications such as skid steer, mini excavator, trencher, ATV/UTV
- Barehand
- Human external cargo
- Extra high voltage live line work methods

Case by case analysis of company's needs. This can be individual qualifications/certifications not necessarily group.

Web Based

This is training that can be delivered and recorded through a utilities Learning Management System (LMS). Ideally each course would have some type of knowledge check at each course's conclusion. The list below includes but is not limited to:

- Black start
- Fire mitigation/wildfire guidelines
- HECA
- Cold/heat illness prevention
- Critical observation
- AI policy
- Anti-corruption & bribery
- Cyber security awareness
- OSHA right to know
- Ethics
- Active shooter
- Preventing harassment & discrimination

For each utility consulting with their Leadership is necessary to determine how best they can support their organization's needs.

Recommendations

The AEIC Training Team recommended the best practice for a Continuous Journeyman Training Project Plan is to have a minimum of 2 days annually for Technical Training which should include the topics of EPZ Grounding/Isolation/Insulation, Induction, and Electrical Theory. Additional

time should be allocated to provide for the completion of all company Compliance Training separately. Web Based, Academies, New Equipment, and Qualifications/Certifications are to be completed in addition to Technical and Compliance in their own time frames as the needs of the business demand. Following these recommendations will increase safety, reliability, and efficiency. This will have a positive impact on employee engagement and satisfaction in their day-to-day work. There will be an increase in company good catches and a decrease in close calls/near misses.

All training courses must stay up to date with industry's best practices and ensure topics are relevant and timely for the organization. To accomplish this, additional resources may be needed in the form of some training organization. Operational Leaders would be hard pressed to be successful running the business and developing training syllabuses and curriculum.

Work Methods

Purpose

The central goal is to utilize technology to provide field crews with seamless access to work methods and procedures. Ensuring these resources are readily available encourages safer work practices and fosters a culture of operational excellence.

Background

Following a benchmark analysis of how Work Methods are developed and disseminated to field employees, it was observed that different companies and organizations employ distinct processes. Utilities often rely on various departments—such as Engineering, Safety Professionals, and Construction/Operations—to create and communicate these methods to their field teams. Despite variations in communication practices, numerous utilities concurred that enhancing the accessibility of work methods for field employees can significantly contribute to improved safety performance.

Common Practices

Currently, work methods and procedures are distributed through a variety of channels, including:

- Hardcopy documents
- Field manuals and reference books
- Intranet sites
- Phone applications
- Manual search ("hunt-and-peck")

However, these avenues can be inconsistent in availability and ease of use. Standardizing and simplifying access are key to improving familiarity with safe work requirements.

Best Practice

A recommended approach is to directly link work tasks with their corresponding work methods and procedures. Incorporating these references into existing operational requirements—such as within a Job Briefing Form—ensures employees have convenient, immediate access to essential information.

SAFE WORK INSTRUCTIONS					
1. QUALIFICATION REQUIREMENTS					
CDL W/Med Certificate	CPR/First Aid				
Truck Trained	Hot Stick Trained				
NOTE: Non-Reclose Assurance (NRA) Required					
2. CREW SIZE: NO LESS THAN TWO (2) QUALIFIED WORKERS					
3. TOOLS: VERIFY WITH YOU					
Mandatory Tools					
Insulating Rubber Protective Cover	Rated Jumper	T-hanger (if 2-person crew)			
Live Line Tools	Standard PPE				
Optional Tools					
Bucket Stick	Radios (Use Three Part Communication)				
4. HIGH ENERGY HAZARDS					
4.1 These icons symbolize the release of energy proven to result in Serious Injuries or Fatalities (SIF) if not controlled properly.					
4.2 Refer to the High Energy Hazards Control Plan (page 3) to develop mitigations for these identified hazards along with any others the team finds at the jobsite, as a part of your Pre-Job Brief.					
					
Mobile Equipment/Traffic with Workers on Foot	Fall from Elevation	Suspended Load	Arc Flash	Electrical Contact with Source ≥ 50 Volts	Heavy Rotating Equipment
5. PROCESS STEPS					
5.1 CONDUCT Job Brief .					
5.2 ESTABLISH Work Zone Traffic Control .					
5.3 SET UP the vehicle including deploying of outriggers.					
5.4 PERFORM a vehicle inspection including the truck set up.					
5.5 INSTALL protective cover as necessary.					
5.6 ENSURE that TripSaver is the correct device.					
5.7 INSTALL rated jumper (bypassing the TripSaver)					
5.8 OPEN TripSaver					
5.9 LIFT the cutout tape.					

Ideally, as organizations develop electronic Job Briefing applications, they should incorporate relevant work methods directly into the application and associate them with specific job functions. This approach minimizes the need for field personnel to independently search for applicable procedures related to their assignments. When safety protocols and work requirements are readily accessible and tailored to the task at hand, employees are more likely to allocate additional time to review them thoroughly.

By embedding work methods into daily operations through technology, organizations can expect enhanced safety, consistency, and efficiency across teams.