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Workforce Development, Safety, and the Next Generation of Electrical Infrastructure

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ABSTRACT

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Workforce Development, Safety, and the Next Generation of Electrical Infrastructure
As demand for reliable electrical infrastructure grows, so does the need to build a talented workforce that can keep pace with the industry's rapid expansion.

With this growth, safety and mental health have become critical priorities that shape both jobsite performance and long-term resilience.

It all starts with one word - people. The next generation of leaders in the utility and electrical sectors must be equipped not only with practical skills, but also with the mindset and leadership foundation to create high performers and a strong safety culture from day one.

This session connects the dots between workforce development, safety, and infrastructure reliability.
Drawing on field-tested experience, Josh will share how preparing emerging leaders before they step into critical roles reduces risk, strengthens teams, and ensures more resilient systems for the communities we serve.

Attendees will gain insights on:

- How leadership development directly impacts safety outcomes.
- Practical methods to prepare young professionals to lead effectively.
- Why investing in people is key to safer projects and stronger infrastructure.

1. Introduction: People Before Performance

Traditionally the construction industry often evaluates success through productivity, safety metrics, schedule adherence, and cost control.

These indicators are necessary, but they are outcomes-not starting points.

Field experience consistently shows that performance challenges originate upstream, at the moment individuals are placed into roles without sufficient preparation.

Safety incidents, leadership breakdowns, and operational disruption are rarely the result of poor intent.

More often, they reflect gaps in readiness.

Before organizations can improve business results, they must first address how people are prepared to perform, lead, and make decisions in high-risk environments. Workforce development is not a parallel function, it is an operational necessity that directly influences safety and infrastructure reliability.

None of these outcomes hold value if the workforce is not returning home safely to their families.

For this reason, workforce development must be understood first as a safety imperative, and only secondarily as a business strategy.

2. What is Workforce Development?

Workforce development is frequently reduced to recruiting, onboarding, or compliance training.

While these elements contribute, they do not define the discipline.

Workforce development is the intentional preparation of individuals to perform and lead effectively under real operating conditions, prior to role escalation or increased exposure.

In practice, this preparation centers on three connected actions:

Attract, Develop, and Mobilize Talent.

Effective workforce development:

- Prepares individuals before assuming responsibility
- Aligns leadership capability with safety expectations
- Builds consistency in decision-making and communication
- Reduces reliance on reactive corrective action

When workforce development is underdeveloped, organizations experience inconsistent leadership, elevated safety exposure, and higher attrition. When implemented as a system, workforce development stabilizes operations and strengthens long-term performance

3. Field-Based Perspective

This framework is grounded in field experience.

Over 20 years across active job sites, common patterns emerged:

- Skilled tradespeople promoted without leadership preparation
- Supervisors managing safety responsibilities they were never trained to handle
- High performers disengaging due to unclear expectations and limited support

These outcomes were not driven by lack of talent, but by lack of structure.

Over the past two years, workforce development initiatives focused on converting these lessons into practical, repeatable strategies that prepare individuals before they are placed into roles that directly affect safety and infrastructure reliability.

Three strategies consistently proved effective: **Attract, Develop, and Mobilize**.

4. Attract: Establishing Clarity and Alignment

Attraction is the first phase of workforce development and extends beyond recruiting.

Effective attraction establishes clarity around:

- Career visibility and progression
- What the work “is and is not”
- Leadership expectations
- Safety standards
- Development opportunities

When organizations communicate what growth looks like, they reduce misalignment between expectations and reality. This improves early engagement, retention, and readiness for development.

Attraction sets the conditions for workforce stability by ensuring individuals understand both opportunity and responsibility from the outset.

Action Steps for "Attraction"

Organizations strengthen attraction by creating clarity before recruitment.

Key actions include:

- Define visible career pathways from entry-level roles through supervision and leadership.
- Communicate safety expectations early, not after hire.
- Engage schools, training programs, and community partners to build awareness of real career opportunities.
- Use in-house leadership presence for outreach, ensuring messaging reflects operational reality rather than marketing language.

These steps reduce early turnover, improve alignment of expectations, and attract individuals prepared for both the opportunity and responsibility of the work.

5. Develop: Preparing Individuals Before Role Escalation

Training is most effective when it precedes responsibility.

Traditional models often promote individuals first and train them after performance or safety issues arise. This approach increases exposure and limits effectiveness. Training must instead prepare individuals **before** they assume higher-impact roles.

Effective training focuses on:

- Leadership decision-making in operational environments
- Communication under time and safety pressure
- Transitioning from individual contributor to leader

- Understanding the downstream impact of decisions

When training reflects real field conditions, individuals enter leadership roles with greater confidence, consistency, and situational awareness.

Early implementation may include:

- Monthly learning sessions or informal “lunch-and-learn” discussions centered on field challenges, safety decision-making, and leadership scenarios.

- Quarterly training forums where experienced industry professionals or trusted internal leaders share lessons learned, incident-prevention strategies, and operational best practices.

- Deliberate knowledge transfer from senior personnel to emerging leaders, preserving institutional experience that might otherwise be lost through turnover or retirement.

These practical systems establish early development momentum while allowing organizations to scale training intentionally over time. As consistency increases, informal learning structures can evolve into defined leadership pathways, competency models, and measurable readiness standards.

The defining characteristic of effective training is not program complexity, but intentional and continuous preparation before responsibility increases.

When individuals assume leadership roles with prior exposure to real-world decision-making and safety accountability, organizations experience improved communication, stronger ownership, and more reliable operational performance.

Action Steps for “Develop”

Organizations seeking to strengthen leadership readiness and safety performance can begin with the following actions:

- Establish pre-supervisory development sessions before promotion occurs.

- Schedule recurring monthly or quarterly knowledge-transfer cohorts led by experienced field leaders.

- Integrate real incident reviews and scenario-based discussions into learning sessions.

- Evaluate readiness using observed leadership behaviors, not tenure alone.

These actions translate training from a conceptual initiative into a repeatable operational practice that directly supports safety, leadership effectiveness, and infrastructure reliability.

6. Mobilize: Translating Development Into Execution

Development only produces value when it is applied. Mobilization ensures that trained individuals are deployed intentionally and supported after placement.

Mobilization includes:

- Assigning roles aligned with demonstrated readiness
- Providing structured feedback check-ins and coaching
- Reinforcing accountability through support

Without mobilization, training remains theoretical. With it, development translates directly into improved safety behaviors, stronger leadership presence, and operational consistency.

Action Steps for "Mobilize"

Effective mobilization requires intentional structure to ensure development translates into safe, reliable field performance.

Organizations can strengthen mobilization through the following operational actions:

- Assign leadership roles based on demonstrated readiness and observed behaviors, not staffing urgency alone.

- Implement structured onboarding into supervisory responsibility, including defined safety expectations and communication standards.

- Provide targeted coaching and mentorship during the initial months of role transition.

- Establish regular performance and safety check-ins to reinforce accountability and provide early course correction.

- Monitor engagement, retention, and safety indicators to evaluate the effectiveness of leadership placement.

These actions ensure mobilization functions as a continuation of development, rather than a separation from it.

When organizations intentionally support leaders after placement, training converts into consistent behavior, stronger safety ownership, and more reliable operational outcomes.

7. Workforce Development as a Safety and Reliability Control

Prepared leaders directly influence safety outcomes. Individuals who are trained and supported:

- Identify hazards earlier
- Communicate expectations more clearly
- Take ownership of safety decisions
- Reinforce consistent behaviors across crews

Safety performance improves not through additional rules, but through improved leadership capability.

As leadership readiness increases, so does operational reliability and infrastructure resilience.

8. Leadership Foundation: Service Before Authority

Sustainable workforce development does not begin with programs, policies, or organizational structure.

It begins with leadership.

At its core, effective workforce development is rooted in service to others—the responsibility to prepare, protect, and support the people entrusted to the work.

This principle is most clearly expressed through servant leadership, where authority is measured not by position, but by the willingness to place the well-being, safety, and development of **people first.**

Servant leadership in operational environments is demonstrated through:

- Prioritizing worker safety above production pressure
- Investing time in developing future leaders before promotion occurs
- Creating environments where questions, learning, and accountability are encouraged
- Accepting responsibility for team outcomes rather than assigning blame

When leadership operates from service rather than authority alone, workforce development becomes natural rather than forced.

Training becomes preparation, mobilization becomes support, and safety becomes personal rather than procedural.

This leadership posture strengthens trust across crews, improves communication in high-risk conditions, and reinforces a culture where individuals are valued not only for productivity, but for their long-term well-being.

Ultimately, workforce development systems succeed or fail based on the intent of the leaders who guide them.

Where servant leadership is present, development is sustained, safety is reinforced, and resilience follows.

9. Conclusion

The future of electrical infrastructure depends not only on technology, but on the readiness of the people responsible for delivering it.

Organizations that invest in workforce development early—by attracting aligned talent, training individuals before role escalation, and mobilizing prepared leaders—reduce risk, strengthen safety culture, and build systems capable of long-term reliability.

Before improving business outcomes, the industry must first focus on building capable people. And building capable people begins with leaders who choose to serve first.

Resilient infrastructure ultimately depends on workers returning home safely each day.

10. References

1. *U.S. Bureau of Labor Statistics. "Fatal Falls in the Construction Industry in 2023."*
2. *U.S. Bureau of Labor Statistics. "Fatal Work Injuries Fell in 2023."*
3. *U.S. Bureau of Labor Statistics. "Construction and Extraction Occupations: Occupational Outlook."*
4. *U.S. Bureau of Labor Statistics. "Apprenticeships: Occupations and Outlook."*
5. *U.S. Bureau of Labor Statistics / Industry Survey Data. "Construction Workforce Shortages and Hiring Challenges."*