

24TH ANNUAL



24TH LCI CONGRESS
OCTOBER 18-21

The Lean Mean Safety Machine

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LEAN GUMBO: THE RIGHT INGREDIENTS FOR PROJECT SUCCESS

October 19th, 2022



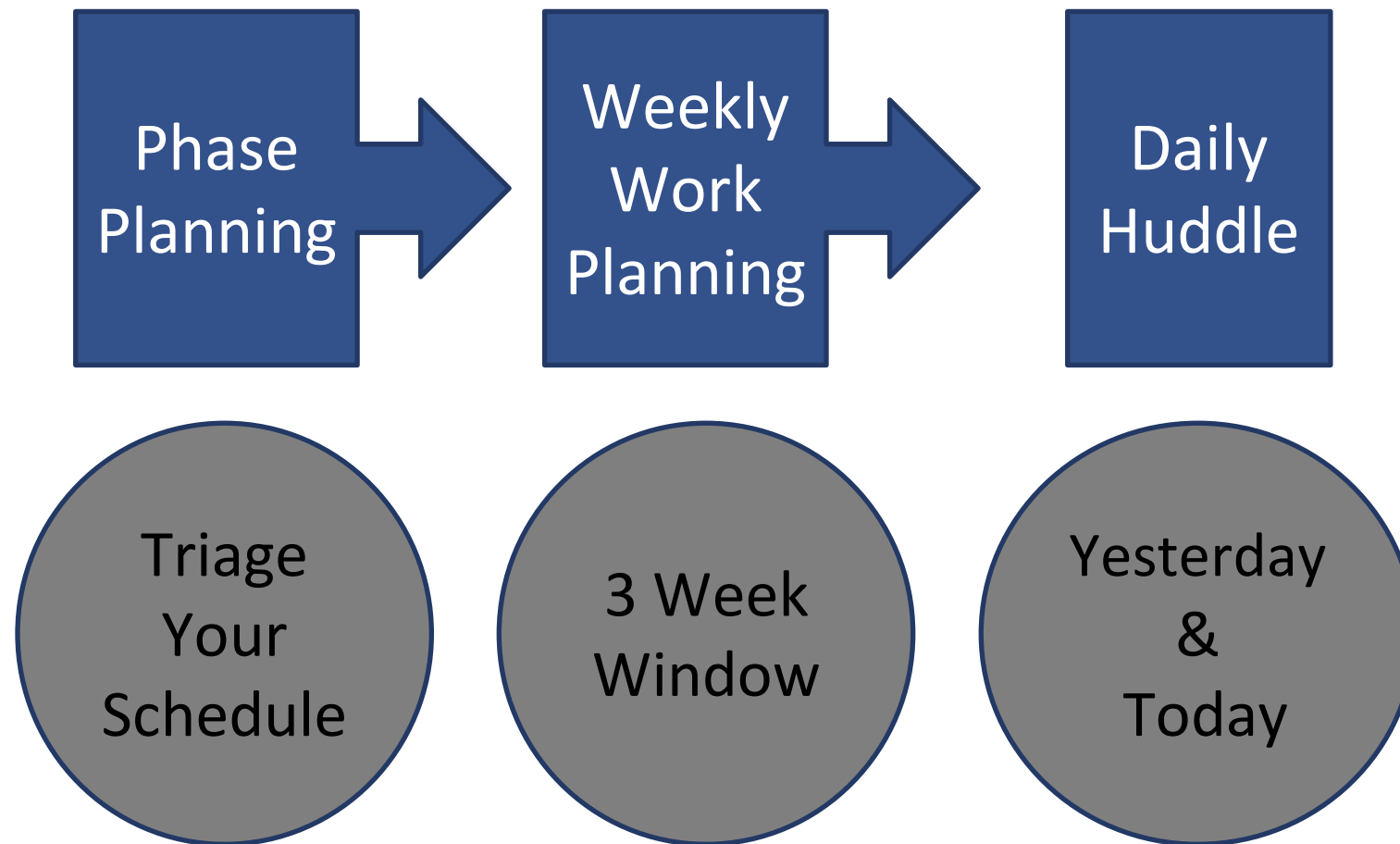
Problem Statement

- How can the entire project team (owner, general contractor, trade contractor) utilize lean best practices to target an accident and injury free workplace?

Part 1: Production Planning with Safety



Structured Planning Meetings



- Three phases of planning sessions allow for integrated safety planning at different levels of granularity

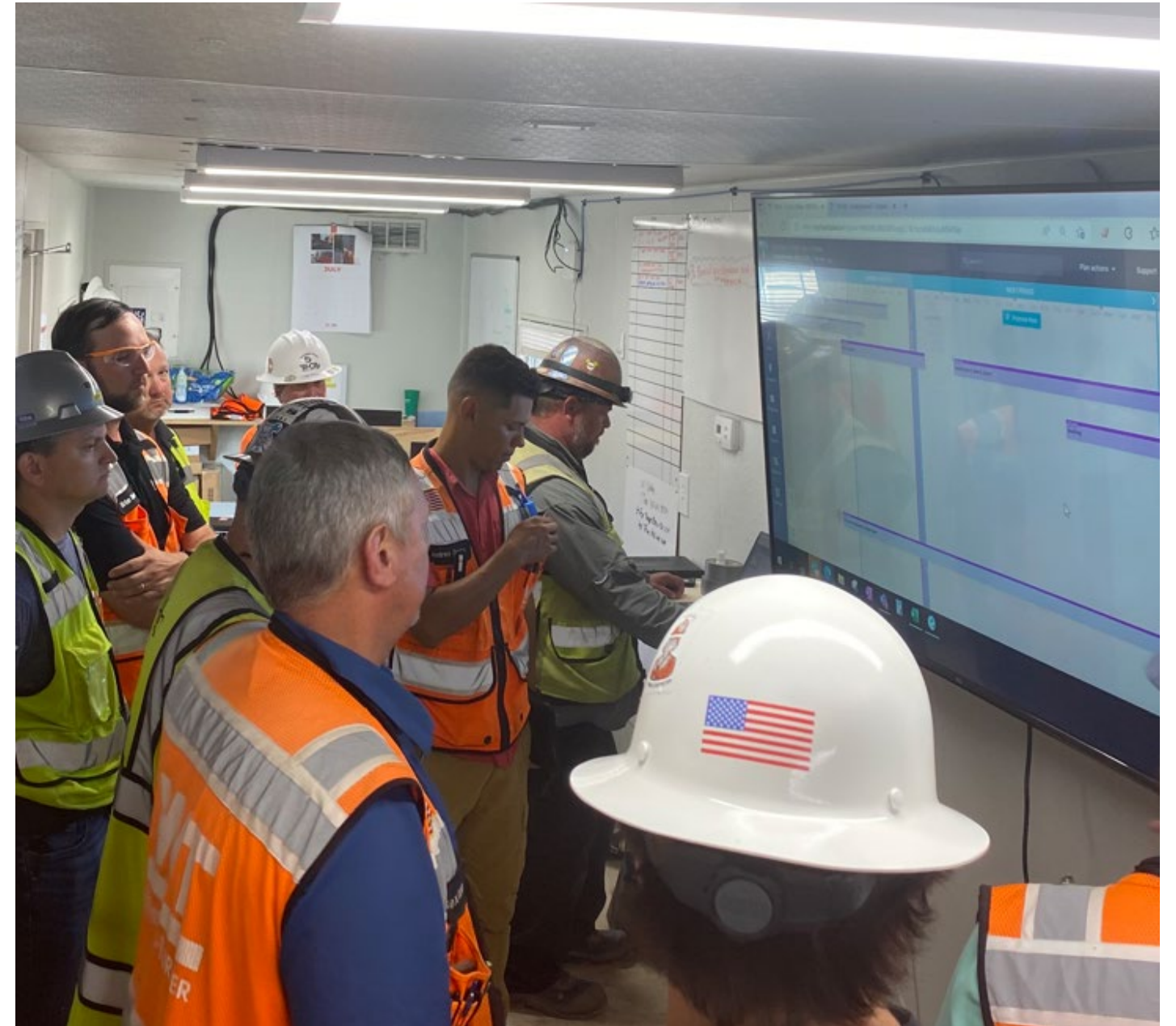
Phase Planning (8 Weeks +)

- Identify Safety Paperwork Needed
 - Crane Plans
 - AHA's
 - Road closures
- Sequencing with a pull method allows for less congested workplaces and less opportunities for injury.
- Obtainable durations sets expectations for the work plan
- Opportunities to inform planning at an early stage with activity sequencing that is unsafe



Weekly Work Planning (3 Week Window)

- Check-up on safety paperwork status so that it doesn't get missed or push work.
- Last look if current construction progress creates an unsafe working environment for a planned activity.
- Opportunity to micro-plan if sequencing creates safety hazards so it isn't determined the "day of" an activity.



Daily Check-ins (Current Day Window)

- Last opportunity to introduce a safety issue before it gets, or doesn't get, identified in the moment
- Opportunity for trades to introduce safety issues that they are seeing daily.
- Opportunity for a trade to coordinate a clean and safe handoff to another.

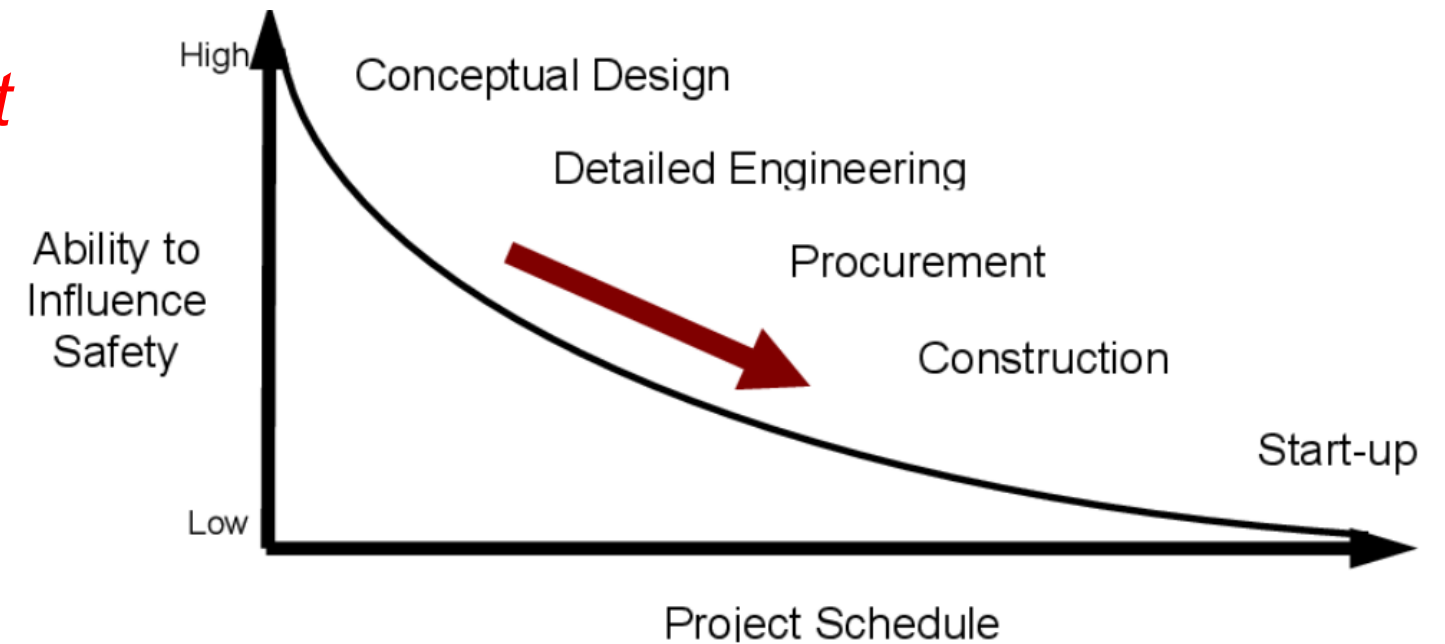


Trades Point of View

Murphy's Law:

“If anything can go wrong, it will. Usually at the worst time”.

- Production Planning helps to eliminate the *“Unlikely mindset”*
- Improve safety training and implementation of safety plans
- **LAST PLANNER = SAFETY PLANNER**



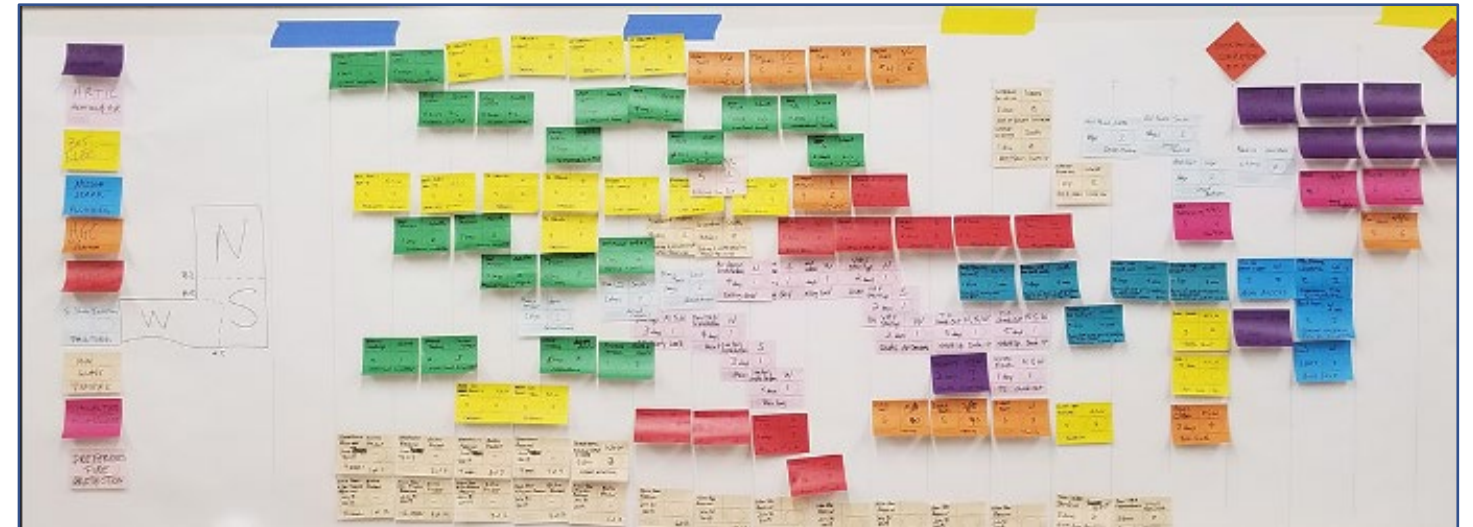
Source: Szymberski 1997

Time / Safety Influence Curve

Trades Point of View: Phase Planning (8 Weeks+)

1st Line of Defense to mitigate / eliminate hazards.

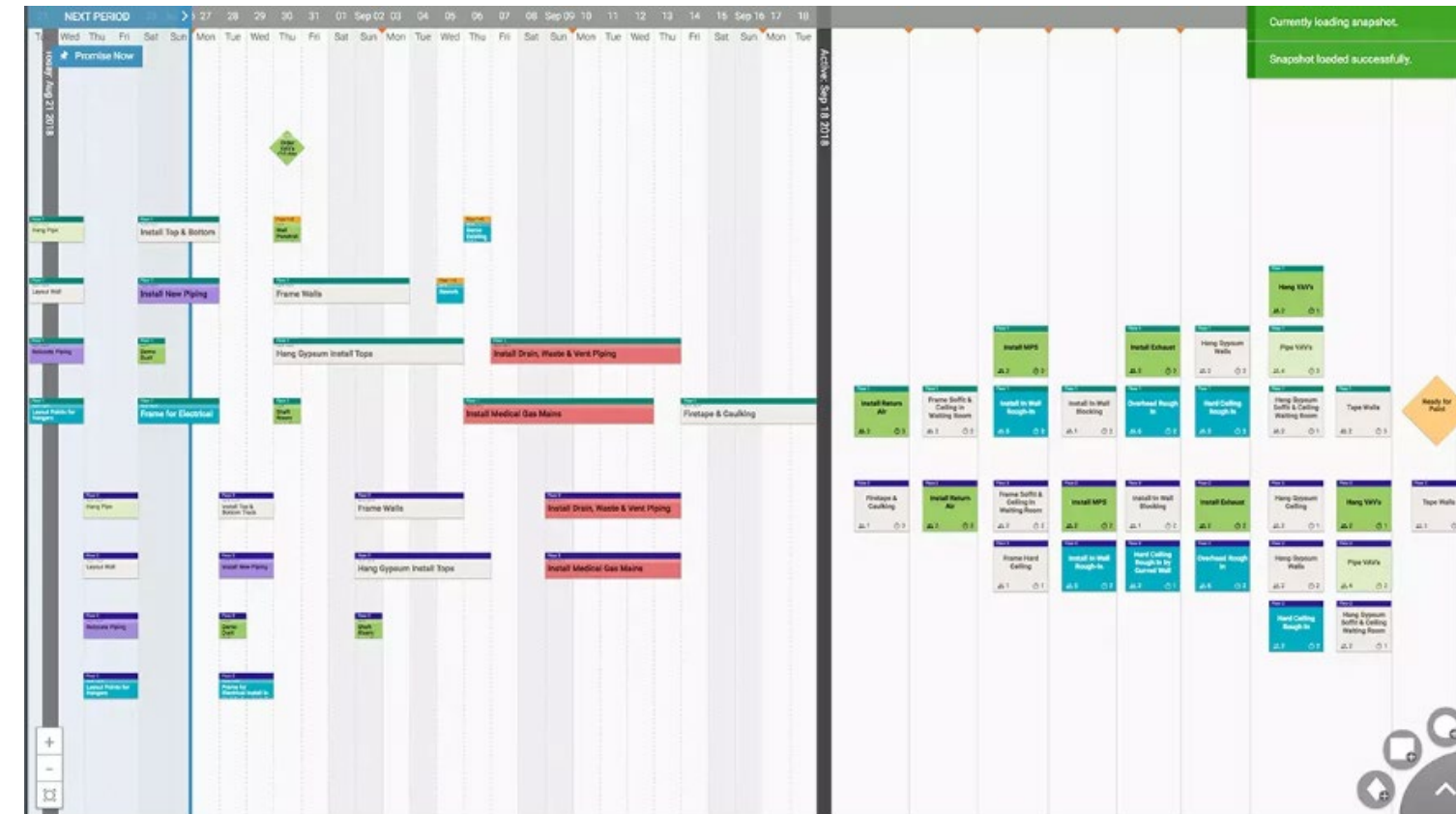
- Trade Internal **Pre-Phase Planning Session** It help trades with:
 - Determine “means and methods” prior to the Phase Planning with all the trades
 - Ex. Scaffolding vs Lifts
 - Identify Resources
 - Equipment / Material and Qualified Personnel
 - Safety Documentation



Trades Point of View: Weekly Work Plan (3 Week Window)

2nd Line of Defense to mitigate / eliminate hazards.

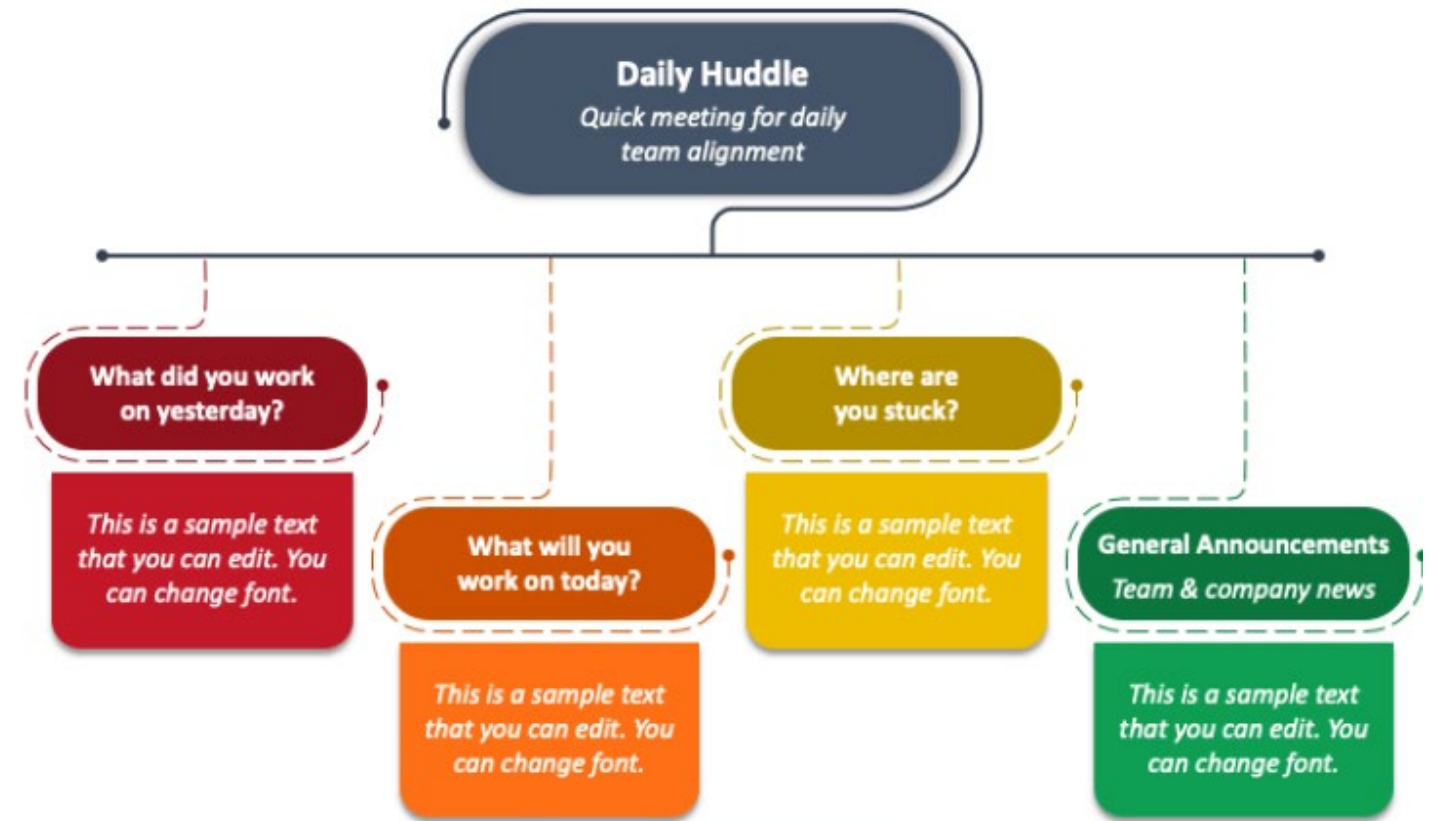
- Trade cross-checks
 - ✓ Status of Safety documentation
 - ✓ Schedule Progress
 - ✓ Changes in sequence of work
 - ✓ Equipment / Material / Qualified Personnel
 - ✓ Additional Training
- What is the key?
 - Trades can **adapt** to unforeseen conditions while being **safe, efficient** and **LEAN**.



Trades Point of View: Daily Check-ins (Current Day Window)

3rd Line of Defense to mitigate / eliminate hazards.

- Last opportunity to identify and mitigate safety hazards.
- Pre-Task Planning (PTP) / Hazard Analysis
- Trade concerns:
 - Safe conditions
 - Qualified labor force / New workers to be trained
 - Workers underestimating hazards due to complacency. “Unlikely mindset”.
 - What is the key? **Communication**

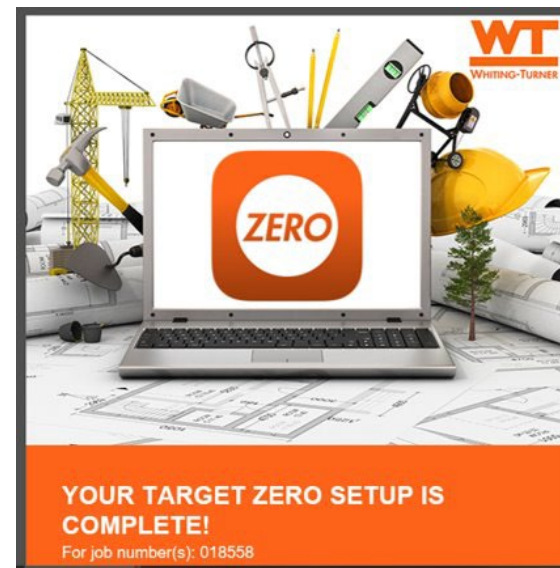
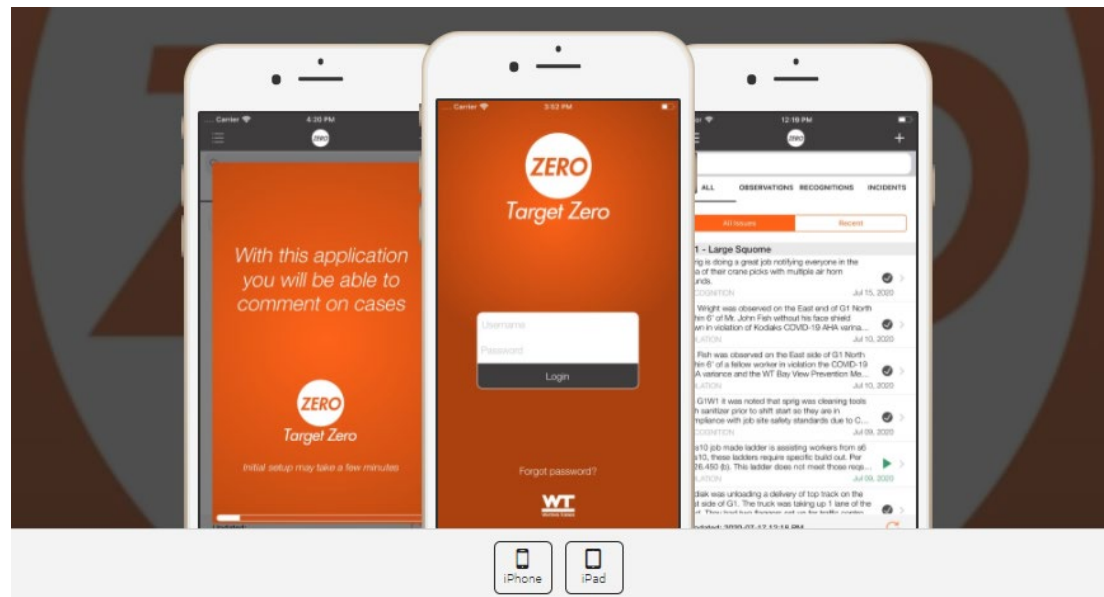


Part 2: Lean Processes for Safety Communication and Documentation



Lean Communication-Target Zero

- Internal tool to document and share safety information
- Stakeholders automatically receive real time notifications regarding safety
- Target Zero automatically creates a log of closed/open items to assist in ensuring safety items have been corrected.



ZERO

+

ALL

OBSERVATIONS

RECOGNITIONS

INCIDENTS

All Issues

Recent

125 Building

Electrical whip was removed from panel and hole was not plated after removal. Exposer to live circuits remains....

VIOLATION

Jan 09, 2020

Multiple cords were observed with frayed insulation exposing the individual wire. Employees failed to inspect each cord for dam...

VIOLATION

Jan 09, 2020

Down inlet damaged during sky bridge steel install. Area left unattended with out hazard being protected....

OBSERVATION

Jan 08, 2020

Subcontractor observed chipping concrete from scissor lift without cordon off area. Pedestrians below could be struck by falling debris....

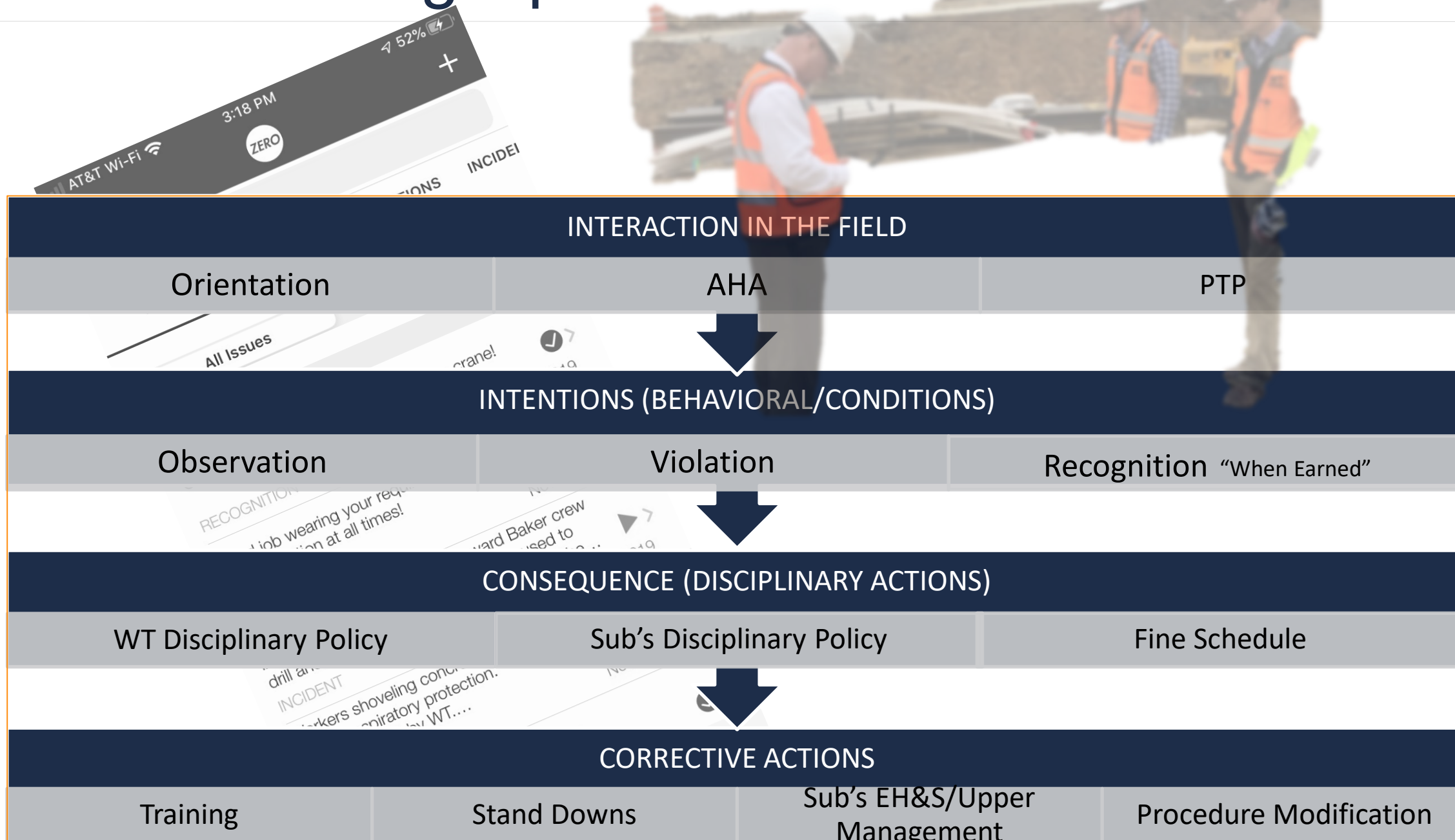
VIOLATION

Jan 08, 2020

Employee observed using chipping hammer and grinder without intergraded dust collection or water delivery system. When stopped and que...

Updated: 2020-02-13 10:39 PM


Interaction – Building Up The Culture....!












Target Zero Notifications

- Editable distribution list
- Email is triggered...
- Real time notification
- Repeat Offender!
- Safety Alert


A new violation - 67889 has been submitted on '017200 MK - 2' Jobsite.




Whiting Turner <no-reply@whiting-turner.com>

To  John.Bowlds@whiting-turner.com;  Lewis, Angela;  Gilliam, Katrina;  trossi@astrusins.com;  Hain, Christopher;  Knoell, Sean;  Barreno, Austin;  Borrelli, James;  Wu, Angela J; **+37 others**

Retention Policy Whiting-Turner (18 years) Expires 2/8/2038

 If there are problems with how this message is displayed, click here to view it in a web browser.



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475 KB

Reply
Reply All
Forward
...

Thu 2/13/2020 8:35 PM



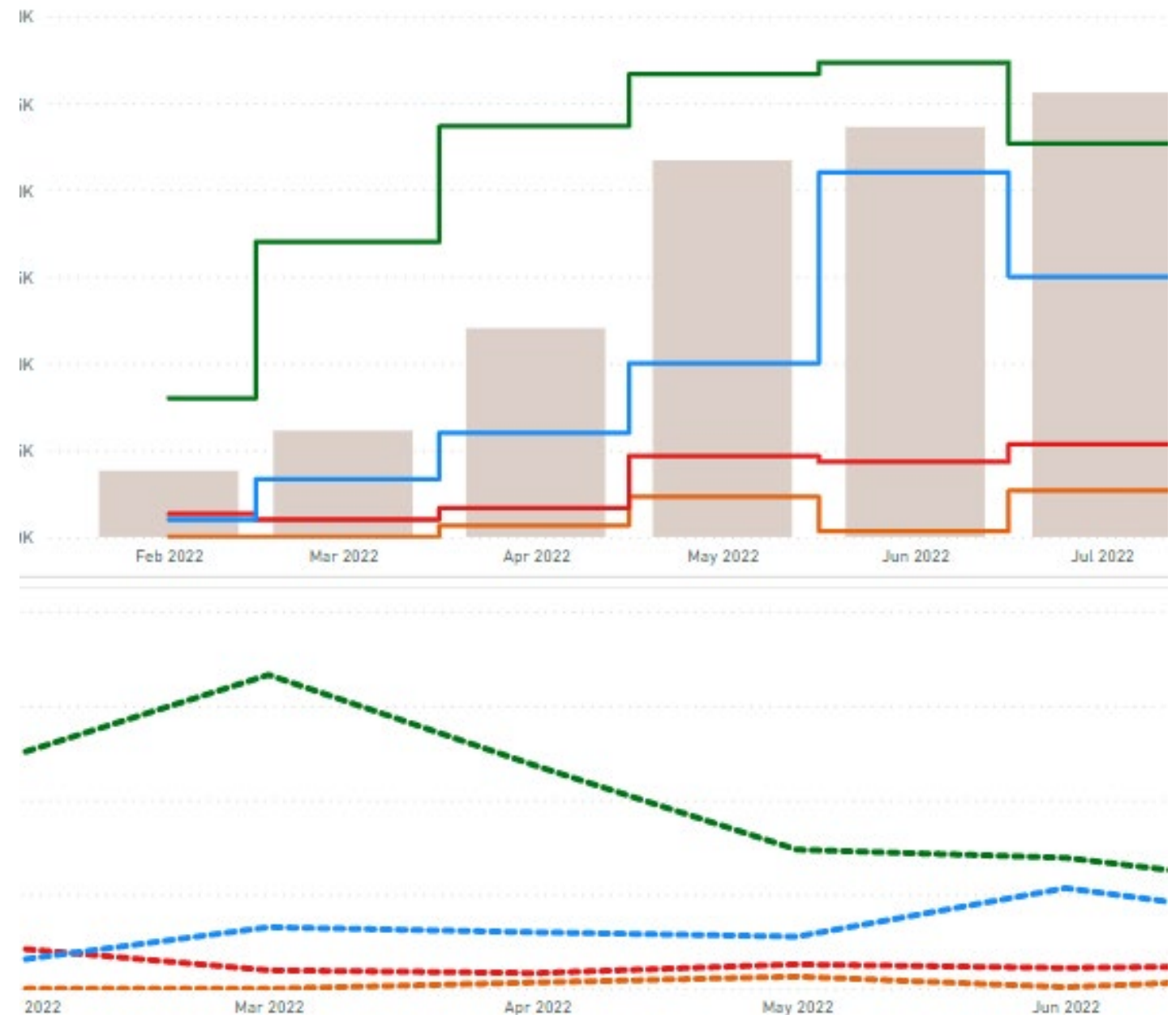
A new safety violation has been recorded. ([view issue](#))

Issued by:	Cecil Coffey
Jobsite:	017200 MK - 2
Jobsite Number:	17200
Correction date:	Feb 13, 2020
Badge ID Number:	8587352



Zerolytics

- Analyzation tool that allows project teams to trend safety
- Allows for quick hit information so a team can focus their attention on the issues that will make an impact (streamline focus)
- Becomes a communication tool so subcontractors understand what level they are performing safety
- Seeing safety through data analytics allows a proactive approach instead of relying on lagging indicators



Zerolytics

PROJECT SAFETY SUMMARY *(Pilot v. 0.35)*

Case Details

Main Project
018400 Project 902

Violations

71

Observations

212

Recognitions

479

On Site Hours

150,340

Date
Last 1 Years

Incidents

40

1
Lost Times

2
Recordables

0
DART Incidents

3
Near Misses

14
First Aid

15
Prop. Damage

Recognitions to Violations Ratio

Total To Date

12 Mon. Trend

6.75

2022 Feb

2022 Mar

2022 Apr

2022 May

2022 Jun

2022 Jul

2022 Aug

Top Safety Case Creators

Created By	All Cases
AOspina	209
SODonnel	103
TBelasco	91
ISmith	84
BDunsmor	53

Recognitions for Proactive Safety Actions:

Pre-Task Plan Recognitions

146

JHA/AHA Recognitions

144

Top 5 Vendors by Violation

Vendor Name	Violations
Tri City Electrical Contractors	22
Baker Concrete Construction	15
Crisdel Group	15
Comprehensive Energy Services	12
Superior Rigging & Erecting Co.	4

Top 5 Safety Codes

Safety Code	No. of Cases
WT-040(ii) - Pre-Task Planning must...	146
WT-040(q) - Job Hazard Analysis (JH...	144
N/A - See additional information	45
C - GENERAL SAFETY AND HEALTH ...	22
1926.20(b)(2) - Such programs shall p...	19

Last 5 Safety Cases / Issues

Incidents

Violations

Observations

Recognitions

All Cases

Main Proj	Date	Vendor	Description
018400	09/17/22	Tri City Electrical ...	(Awaiting full incident report from Tricity) Tricity Employee (Ignacio Garcia) was oper...
018400	09/16/22	Tri City Electrical ...	Mr. Dubuisson noticed a post missing in a snow fence barricade from another contra...
018400	09/16/22	Comprehensive En...	Rusty submitted their JHA this morning and all excavations were protected and tras...
018400	09/15/22	Baker Concrete Co...	Leonardo is submitting his JHA prior to starting work identifying all activities, hazar...
018400	09/15/22	Steel Worx Solutio...	Steel worx crew is covering its JHA as a group identifying their activities for the day...

Checklist Compliance %

97%

100%

99%

EHS Safety Survey

Monthly Safety

Job Appearance

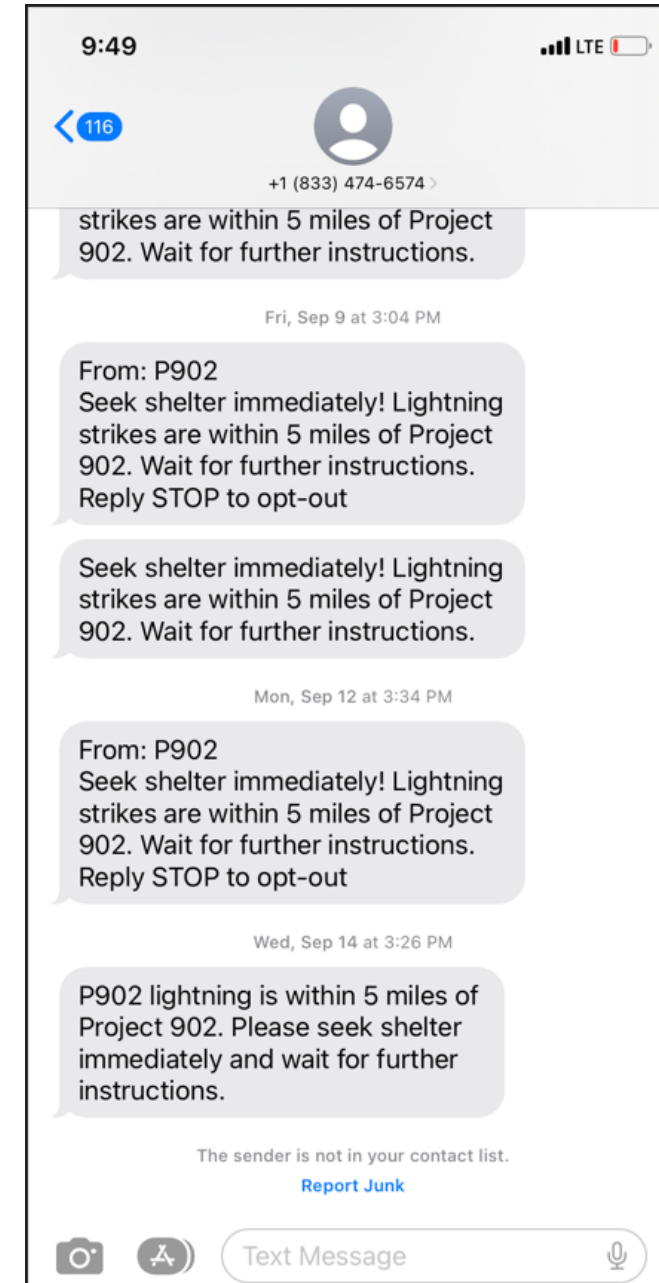
	EHS Safety Survey	Monthly Safety	Job Appearance
Checklist Count	6	7	5
Avg Frequency	36.0	29.8	41.0

Job Site Mass Communication-Engaging the Worker

Clear information conveyance

Use as the emergency alert system for evacuation/severe weather warnings

Can be used to recognize workers for safety and to share relevant safety information



Part 2: Lean Processes for Safety Communication and Documentation



Safety Communication and Documentation

- How **lean** is turnover and how **costly** is a new hire?
- How can communication and documentation **help** with retention?

By cultivating an **environment** based on **care** and **enthusiasm**.



Source: TradingView_United States Job Offers, 1W, Bureau of Labor Statistics. 36% above 50 MA, 109% above 200 MA



We Accomplished A Culture Of Care

- Improving relationships via **transparency** and **listening**
 - Free tools – Microsoft Forms and Polls
 - Posts displayed on TV
- **Supporting** workers needs
 - Gave out popsicles
 - Hired on-site medic
- Changing **perceptions** of the safety position
 - Life Optimization Specialists
 - Assess current performance for safer alternatives



We Created Safety **Enthusiasm!**

- The relationships developed based on mutual **respect** and **support**
 - Invest in relationships
 - Show genuine interest
 - Know their name
 - Get them to deliver safety topics
 - Eat with them
- Thanks, we **gave**
 - Rewarded safety committee participation
 - Regularly luncheons with prizes
 - Unique experiences
- Times we were **sought** out



Consider the following

- What are your safety **selling points**?
- How are you **helping** workers be better versions of themselves?



Source: TradingView_United States Job Vacancies, 1W, Bureau of Labor Statistics. 47% above 50 MA, 124% above 200 MA



Part 3: Gemba Walks for Safety



Focused Field Walks

- 1-hour field walk with a safety lens
- A two person team, one field, one office
- There is a rotation so that the responsibility is shared
- All safety conversations are documented into Target Zero
- Looking to improve processes and site conditions not just compliance



Benefits of Gemba walks

- Culture building for site workers
- Educational for management staff
- Non compliance issues are being seen and corrected in real time
- Hazard recognition knowledge is being built throughout the site
- The team is sharing experiences to benefit the safety of everyone
- Helps identify underlying safety issues that would normally go unnoticed in day to day management tasks



Conclusion



Benefits of Implementing Lean Safety Practices

- Increase Productivity through higher morale
- Planning ahead cuts down on work stoppage
- Limits worker turnover
- If safety is important, production and quality will be as well
- We are training the future leaders in our industry



How can you apply this tomorrow?

- *Provide attendees some specific examples they can take back to their workplace in this chart. A guide of “where to start.”*
 - Start implementing safety into your planning sessions
 - Document and notify workers about safety (doesn't have to be as elaborate as Target Zero)
 - Implement Gemba safety walks with your team

C
COLLABORATION
for transparency

A
ACCOUNTABILITY
for goals

R
RESPECT
with resources

E
EMPOWER
and engage



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In the spirit of continuous improvement, we would like to remind you to complete this session's survey! We look forward to receiving your feedback.



Contact Us

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Thank you for attending this presentation. Enjoy the rest of the 24th Annual LCI Congress!

