



Fixing a Broken “Safety Culture”

Zach Pucillo CSP CHMM
EHS Compliance Manager



Agenda

1	What is a Safety Culture?
2	Culture Ladder
3	Senior Management Commitment
4	Employee Engagement
5	Proactive Design

What is a Safety Culture?

What is a Safety Culture?

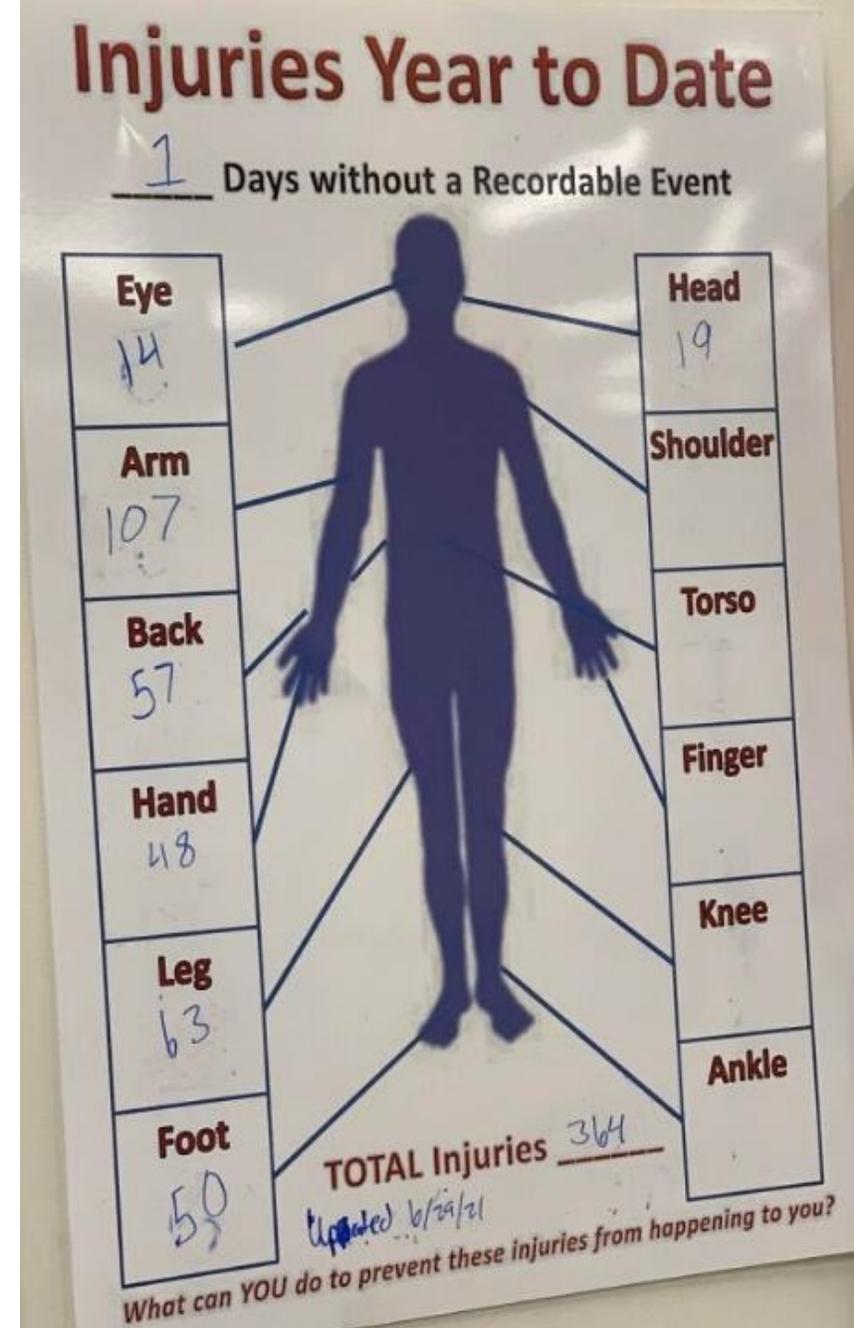
Below are definitions of a Safety Culture

1. Safety Culture: interactions between people's psychological and work behavior in the organization.
2. Safety Culture: observations of the efforts of organizational members which draws their attention towards daily safety improvement.
3. Safety Culture: All elements of organizational culture that affect the behaviors and attitudes associated with increased or decreased risk.
4. Safety Culture: To direct people's activities toward risk, accidents, and prevention, it is required to share and understand all related definitions, experiences, and safety perceptions.
5. Safety Culture: Safety cultures consist of shared beliefs, practices, and attitudes that exist at an establishment. Culture is the atmosphere created by those beliefs, attitudes, etc., which shape our behavior.

What is a Safety Culture?

Your organization has a culture...safety is either apart of your culture or it isn't

- Culture is an umbrella term which encompasses the social behavior, institutions, and norms found in human societies, as well as the knowledge, beliefs, arts, laws, customs, capabilities, and habits of the individuals in these groups.



What is a Safety Culture?

Which represents your company's approach?

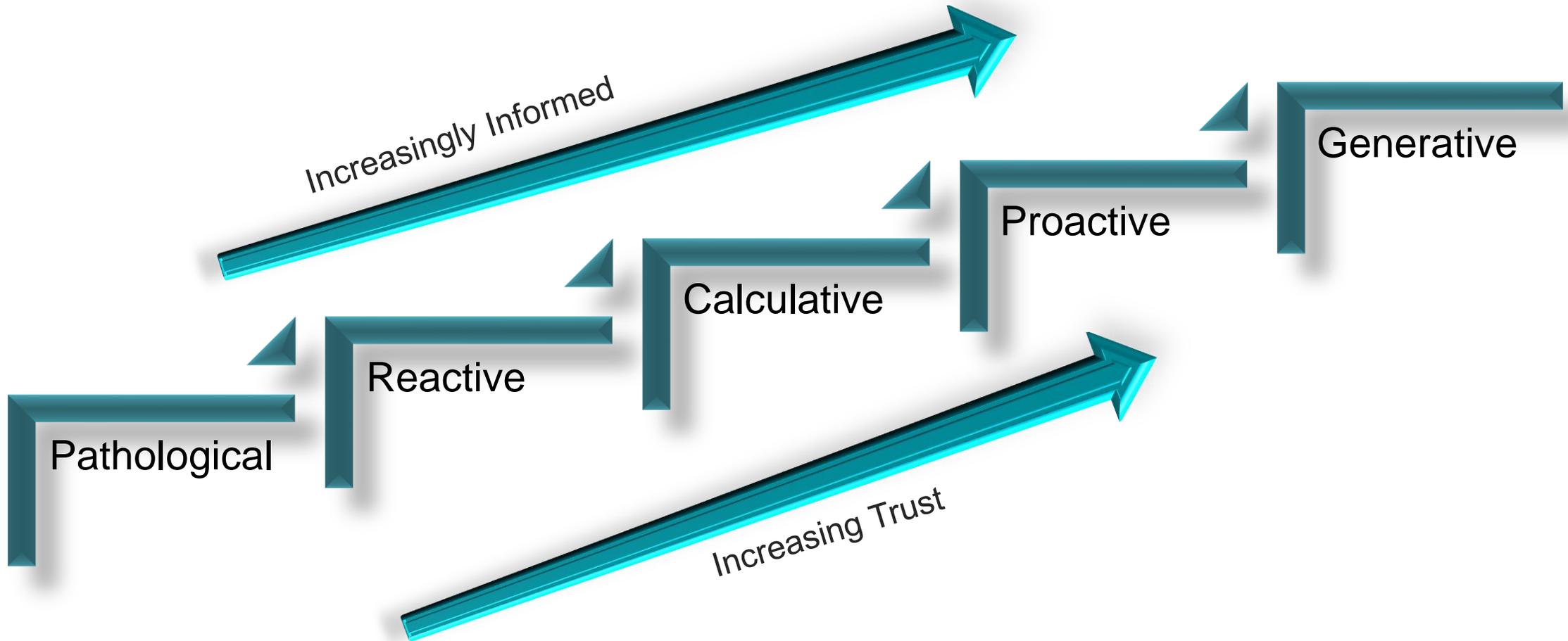
Complacency

Compliance

Culture

Hudson Cultural Ladder

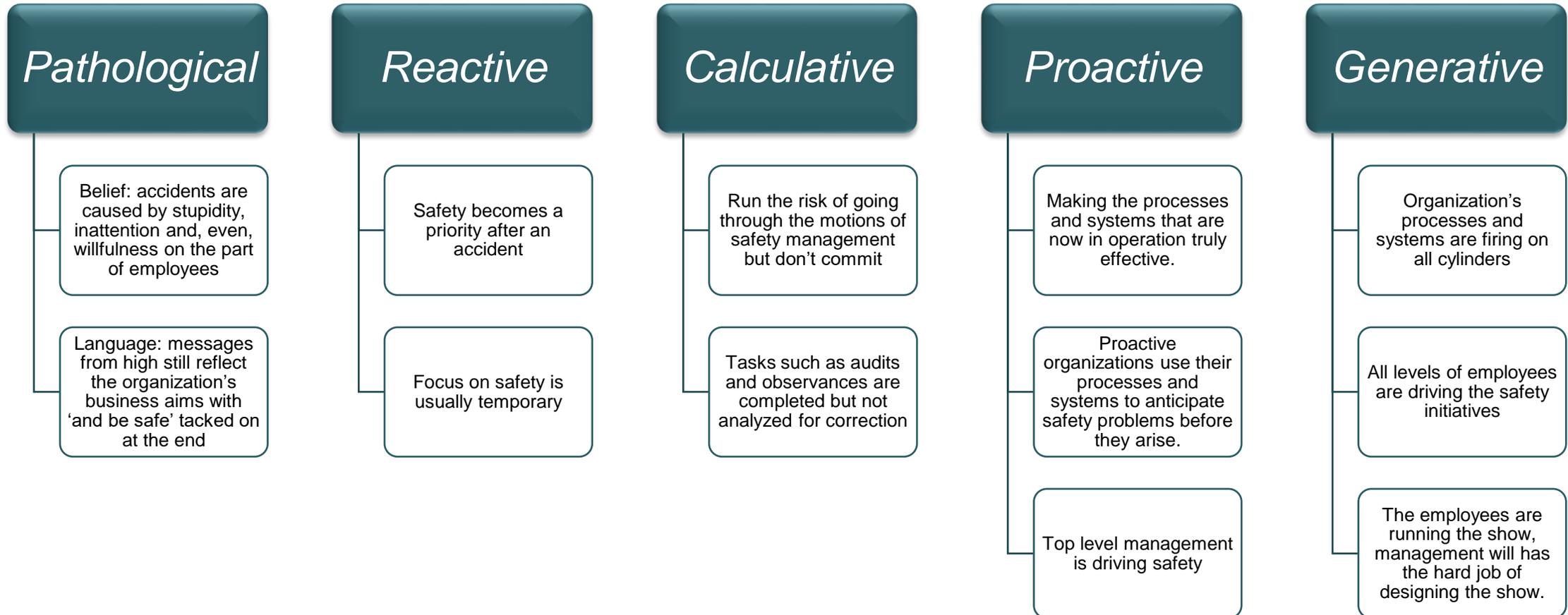
Professor Patrick Hudson of the Center for Safety Research, Leiden University¹



Safety Management and Safety Culture The Long, Hard and Winding Road¹: <https://www.skybrary.aero/sites/default/files/bookshelf/2417.pdf>

Hudson Cultural Ladder

Cultures tend to go through these stages as they climb the ladder



Pillars of Safety Management

1. Senior Management Commitment



*“The key to get management to “buy in” for safety involves finding a common purpose.” - J.A. Rodriguez Jr., CSP
Chief Strategy Officer for the BCSP*

DOES YOUR ORGANIZATION PRIORITIZE SAFETY OVER PRODUCTION AND/OR OTHER BUSINESS DEMANDS?

Yes	70%
No	30%

DOES TOP MANAGEMENT IN YOUR ORGANIZATION PROVIDE ACTIVE AND VISIBLE SUPPORT FOR OCCUPATIONAL SAFETY AND HEALTH?

Yes	82%
No	18%

TO WHICH DEPARTMENT DOES SAFETY REPORT?

Executive Suite	44%
Operations	19%
Human Resources	13%
Facilities Management	13%
Risk Management	1%
Other (Compliance, Finance, Legal, Quality, etc.)	10%

Survey Results

- ***According to a survey from EHS Today, business leaders are investing in safety efforts for the company.***
- ***So, if your company answers these questions as “No”, what can you do to change that answer?***

Senior Management Commitment

A strategy to gain commitment: What could happen if we continue down this path....

- The Bantha Blue Milk Company has a powered industrial truck onsite (Forklift)
 - The facility does not have any type of powered industrial truck program or policies communicated to the employees
- One day a part needs to be delivered to a service bay for installation. A new (untrained) warehouse employee hops on the forklift and proceeds to deliver the part. As the employee begins to enter the service department at a high speed, the employee sees another forklift backing up and therefore has to serve to avoid a collision. The brakes have not been functioning properly and forklift slides a bit and starts to tip.
- The forklift tips over and the employee attempts to jump for it. The employee's leg is pinned between the ground and the cage that surrounds the driver's seat. The employee is taken to the hospital and unfortunately the employee's leg needed to be amputated.
- The part slid off the forks and knocked into a 55-gallon oil drum which were near the overhead dock doors. The part knocks the drum off the loading dock which is a 4-foot fall, and it ruptures as it hits the ground. The drums contents spill into a storm drain at the base of the dock.

*This scenario is not based on a real event and any noticed similarities is purely coincidental

Senior Management Commitment

Selling the ROI: Estimate of Losses based on OSHA “Safety Pays” Calculator

Injury Type	Instances	Direct Cost	Indirect Cost	Total Cost
Amputation	1	\$ 96,003	\$ 105,603	\$ 201,606
Concussion	1	\$ 54,571	\$ 60,028	\$ 114,599
Fracture	1	\$ 54,856	\$ 60,341	\$ 115,197

These estimates include the following kinds of indirect costs:

- Any wages paid to injured workers for absences not covered by workers' compensation;
- The wage costs related to time lost through work stoppage associated with the worker injury;
- The overtime costs necessitated by the injury;
- Administrative time spent by supervisors, safety personnel, and clerical workers after an injury;
- Training costs for a replacement worker;
- Lost productivity related to work rescheduling, new employee learning curves, and accommodation of injured employees; and
- Clean-up, repair, and replacement costs of damaged material, machinery, and property.

Some of the possible kinds of indirect costs not included in these estimates are:

- The costs of OSHA fines and any associated legal action;
- Third-party liability and legal costs;
- Worker pain and suffering; and
- Loss of good will from bad publicity.

Sources: <https://www.osha.gov/safetypays/estimator>

Senior Management Commitment

Selling the ROI: Potential OSHA Citation

Citation 1 Item 1 Type of Violation: **Serious**

29 CFR 1910.178(l)(1)(ii): Prior to permitting an employee to operate a powered industrial truck (except for training purposes), the employer shall ensure that each operator has successfully completed the training required by this paragraph (l), except as permitted by paragraph (l)(5):

\$5500.00

Citation 1 Item 2 Type of Violation: **Serious**

29 CFR 1910.178(q)(5): All parts of any such industrial truck requiring replacement shall be replaced only by parts equivalent as to safety with those used in the original design:

\$4400.00

Citation 2 Item 1 Type of Violation: **Willful**

29 CFR 1910.178(p)(1): If at any time a powered industrial truck is found to be in need of repair, defective, or in any way unsafe, the truck shall be taken out of service until it has been restored to safe operating condition:

\$60500.00

Citation 2 Item 2 Type of Violation: **Willful**

29 CFR 1910.178(q)(7): Industrial trucks shall be examined before being placed in service, and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examination shall be made at least daily. Where industrial trucks are used on a round-the-clock basis, they shall be examined after each shift. Defects when found shall be immediately reported and corrected:

\$60500.00

TOTAL PROPOSED PENALTIES

\$130900.00

Senior Management Commitment

Selling the ROI: EPA Potential Penalties

- “facility, has agreed to pay a penalty of **\$17,500** to settle EPA claims regarding a January 2014 oil spill, and inadequacies in xxxx’s oil spill prevention plan.
- “The Jan. 2014 oil spill originated from tanks stored at the xxxx, when a small quantity of oil was released to an unnamed stream that leads to the xxxx River. Additionally, in a subsequent March 2014 inspection, EPA alleged that the company's Spill Prevention, Control and Countermeasure (SPCC) plan, as required by the Clean Water Act, was not adequate.”
- This citation doesn’t include the legal fees, cleanup costs, and costs to upgrade the equipment and the SPCC plans needed for the spill. Estimate: **\$15,000**

Source: <https://archive.epa.gov/epa/newsreleases/claremont-nh-auto-dealer-settles-epa-oil-spill.html>

Senior Management Commitment

Selling the ROI: Potential Legal Costs

- “Here's a quick look at some real-world personal injury settlements and civil court verdicts in cases involving ankle injuries:.....
 - \$350,000 settlement for plaintiff after forklift tipped over and caused severe ankle fracture.”
- ...but the employee was negligent?!?
 - OSHA will build the majority of the case for the attorney
 - No training
 - No inspections
 - No maintenance

Source: <https://www.alllaw.com/articles/nolo/personal-injury/settlement-value-ankle-claim.html>

Senior Management Commitment

Selling the ROI: Total Loss from Example Incident

- Total Direct Loss Estimate = \$205,430
- Total Indirect Loss Estimate = \$105,603 (Highest amount estimated)
- Legal Settlement = \$350,000
- EPA Citations/Costs = \$32,500
- OSHA Citations = \$130,900
- Total = \$824,433

It doesn't end there....

Senior Management Commitment

Selling the ROI: Experience Modification Rating

- A calculation used by insurance carriers to determine the premium amount a business will pay for their worker's comp policy
 - “costs of a company's actual workers' compensation claims compared to the expected costs for companies of similar size in the same industry.”
- Retroactive over the past three years prior to the term year
- “1” is the magic number
 - EMR job classification industry average
- Example
 - EMR = 1.4 then its possible to pay 40% more
 - EMR = 0.89 then its possible to pay 11% less
- Typically, more incidences carries more weight
- Remember that managers are also competitive....

Senior Management Commitment

Competitive: Incidence Rate:

- The incidence rates represent the number of injuries and illnesses per 100 full-time workers and are calculated as: $(N/EH) \times 200,000$, where
 - N = number of injuries and illnesses
 - EH = total hours worked by all employees during the calendar year
 - 200,000 = base for 100 equivalent full-time workers (working 40 hours per week, 50 weeks per year)

Example Incidence Rate

- N = 4 (You can find “N” from your OSHA 300A)
- EH = 160,000 (80 employees x 40 hours x 50 weeks)
- $4/160,000 \times 200,000 = 5.0$

OSHA's Form 300A (Rev. 01/2004)
Summary of Work-Related Injuries and Illnesses

Year 20 _____
 U.S. Department of Labor
 Occupational Safety and Health Administration
 Form approved OSHA 300-128

All establishments covered by Part 1904 must complete the Summary page, even if no work-related injuries or illnesses occurred during the year. Refer to the Log & Log-Supplement for instructions on completing this summary.

Using the Log, count the individual entries you made for each category. Then enter the OSHA codes, making sure you've entered the codes from every page of the Log. If you had no cases, enter "0".

Employees, their employers, and their representatives have the right to review the OSHA Form 300 in its entirety. They will have limited access to the OSHA Form 300 or its equivalent. See 29 CFR Part 1904.35, in OSHA's recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases			
Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
(a)	(b)	(c)	(d)

Number of Days	
Total number of days away from work	Total number of days of job transfer or restriction
(e)	(f)

Injury and Illness Types	
Total number of	
(g)	(h)
} Injuries _____	(i) Poisonings _____
} Skin disorders _____	(j) Hearing loss _____
} Respiratory conditions _____	(k) All other illnesses _____

Establishment Information

Your establishment name _____
 Street _____
 City _____ State _____ ZIP _____

Industry description (e.g., Manufacturer of metal rock rollers) _____
 Standard Industrial Classification (SIC), 4-digit code (F10) _____
 OR
 North American Industrial Classification (NAICS), 4-digit code (S1020) _____

Employment Information (If you don't have this page, write "N/A" in the circle.)
 Annual average number of employees _____
 Total hours worked by all employees last year _____

Sign here
 Knowingly falsifying this document may result in a fine.

I declare that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

Signature _____
 Title _____

Post this Summary page from February 1 to April 30 of the year following the year covered by the form.
 Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, reviewing and collecting the information, and reviewing and completing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington, DC 20503. Do not send this information to the office.

Senior Management Commitment

Competitive: Average Incidence Rates

- Incidence rates of nonfatal occupational injuries and illnesses by industry and case types

INDUSTRY(2)	NAICS CODE(3)	Total recordable cases	Cases with days away from work, job restriction, or transfer			Other recordable cases
			Total	CASES WITH DAYS AWAY FROM WORK(4)	Cases with days of job transfer or restriction	
Manufacturing		3.1	2	1.1	0.9	1.1
Manufacturing	31-33	3.1	2	1.1	0.9	1.1
Food manufacturing	311	5.1	3.9	2.5	1.5	1.2
Beverage manufacturing	3121	3.5	2.5	1.2	1.3	1
Breweries	31212	2.1	1.2	0.6	0.6	1
Wineries	31213	3	2	1.1	0.9	1
Distilleries	31214	1.3	0.8	0.3	0.4	0.5
Textile mills	313	3.1	2.1	1.1	0.9	1
Footwear manufacturing	3162	3.4	2.4	1.3	1	1.1
Wood product manufacturing	321	4.7	2.9	1.7	1.2	1.8

INDUSTRY(2)	NAICS CODE(3)	Total recordable cases	Cases with days away from work, job restriction, or transfer			
			Total	CASES WITH DAYS AWAY FROM WORK(4)	Cases with days of job transfer or restriction	Other recordable cases
Sawmills and wood preservation	3211	4.8	3	1.7	1.3	1.8
Sawmills	321113	5.1	3.1	1.8	1.4	1.9
Truss manufacturing	321214	4.3	2.7	1.7	1	1.6
Other wood product manufacturing	3219	5.1	3.1	1.8	1.3	2
Millwork	32191	4.6	2.8	1.7	1.1	1.8
Wood window and door manufacturing	321911	3.9	2.3	1.3	1	1.6
Manufactured home (mobile home) manufacturing	321991	8.1	4.3	2.2	2.1	3.8
All other miscellaneous wood product manufacturing	321999	3.5	1.7	1.2	0.4	1.8
Paper manufacturing	322	2.4	1.6	0.9	0.7	0.8
Paperboard mills	32213	2.3	1.6	1.1	0.5	0.7
Stationery product manufacturing	32223	3.6	1.8	1.1	0.7	1.8
Printing	32311	2	1.3	0.8	0.5	0.7
Petroleum and coal products manufacturing	324	1.2	0.7	0.4	0.3	0.5

Source: https://www.bls.gov/web/osh/summ1_00.htm

Senior Management Commitment

Example of Accountability: The bottom performer must present improvement strategy at next management meeting



2. Employee Engagement

Employee Engagement - Understand your Audience

The infographics below⁵ depict the different generations making up today's workforce



BABY BOOMERS BORN: 1946 – 1964

OPTIMISTIC | COMPETITIVE | WORKAHOLIC | TEAM-ORIENTED

Shaped by: Vietnam War, Civil Rights Movement, Watergate

Motivated by: Company loyalty, teamwork, duty

Communication style: Whatever is most efficient, including phone calls and face to face

Worldview: Achievement comes after paying one's dues; sacrifice for success

Employers should: Provide them with specific goals and deadlines; put them in mentor roles; offer coaching-style feedback

65% Baby Boomers who plan to work past age 65³

10,000 Baby Boomers reach retirement age every day⁴



GENERATION X BORN: 1965 – 1980

FLEXIBLE | INFORMAL | SKEPTICAL | INDEPENDENT

Shaped by: The AIDs epidemic, the fall of the Berlin Wall, the dot-com boom

Motivated by: Diversity, work-life balance, their personal-professional interests rather than the company's interests

Communication style: Whatever is most efficient, including phone calls and face to face

Worldview: Favoring diversity; quick to move on if their employer fails to meet their needs; resistant to change at work if it affects their personal lives

Employers should: Give them immediate feedback; provide flexible work arrangements and work-life balance; extend opportunities for personal development

55% Startup founders who are Gen Xers—the highest percentage⁶

BY 2028 Gen Xers will outnumber Baby Boomers⁵



MILLENNIALS BORN: 1981 – 2000

COMPETITIVE | CIVIC- AND OPEN-MINDED | ACHIEVEMENT-ORIENTED

Shaped by: Columbine, 9/11, the internet

Motivated by: Responsibility, the quality of their manager, unique work experiences

Communication style: IMs, texts, and email

Worldview: Seeking challenge, growth, and development; a fun work life and work-life balance; likely to leave an organization if they don't like change

Employers should: Get to know them personally; manage by results; be flexible on their schedule and work assignments; provide immediate feedback

75% percentage of global workforce to be made up Millennials by 2025⁷

15% Millennials ages 5–35 living at home with their parents⁸



GENERATION Z BORN: 2001 – 2020

GLOBAL | ENTREPRENEURIAL | PROGRESSIVE | LESS FOCUSED

Shaped by: Life after 9/11, the Great Recession, access to technology from a young age

Motivated by: Diversity, personalization, individuality, creativity

Communication style: IMs, texts, social media

Worldview: Self-identify as digital device addicts; value independence and individuality; prefer to work with Millennial managers, innovative coworkers, and new technologies

Employers should: Offer opportunities to work on multiple projects at the same time; provide work-life balance; allow them to be self-directed and independent

40% Gen Zers who want to interact with their boss daily or several times each day⁹

84% Gen Zers who expect their employer to provide formal training¹⁰

Younger Workforce

NIOSH Statistics on how The Younger Workforce Has Higher Incidence Rates

- In 2020, there were about 17.3 million workers under the age of 25. These workers represented 11.7% of the total workforce.
- In 2020, 352 workers under the age of 25 died from work-related injuries².
- In 2020, there were 26 deaths to workers under 18 years of age².
- In 2020, the rate of work-related injuries treated in emergency departments for workers, ages 15–24, was 1.5 times greater than the rate for workers 25 years of age and older⁴.

Employee Engagement

Lead by Example/Empower the People

- Seek out your team
 - Don't just throw your safety culture idea in someone else's lap
 - Volunteers are better than Voluntolds
 - Issue your team the time and make considerations for missed productivity
- Recognize what your current status
- Analyze inside and outside resources
 - “We have a technician who was a past forklift operator for a shipping firm”
 - “Our shop foreman is willing to share stories about how she has seen hand tools slip before and can do a shop talk”
 - “We have a former fire fighter that is now a parts delivery man”
 - “The local red cross hosts CPR and basic first aid training”
 - “We had a consultant at a past facility that I worked with who did safety training”
 - “We have a new Gen Z employee, can we leverage that to understand what they want to know and how they like to learn?”

How to Engage...

Empowering the Employees

- Display some vulnerability
- Hold everyone accountable including management
- Stop work authority
- Representation on all safety program decisions
- Challenge them to create new ways of learning
- Equip them with incentive power
 - Creation of a program
 - Safety rewards
- Enhance your training with less and talking and more doing
- Embrace technology
 - If there was only a way to get a safety message across...



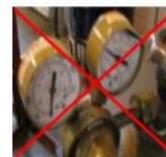
Oxygen-Acetylene Torch Cart



Required PPE

Heat Resistant Gloves 	Protective Jacket 	Face Shield w/Shaded Visor 
--	--	---

Inspect For Damages Prior To Use

 Incorrect	 Incorrect	 Incorrect
--	--	--

Important Safety Reminders

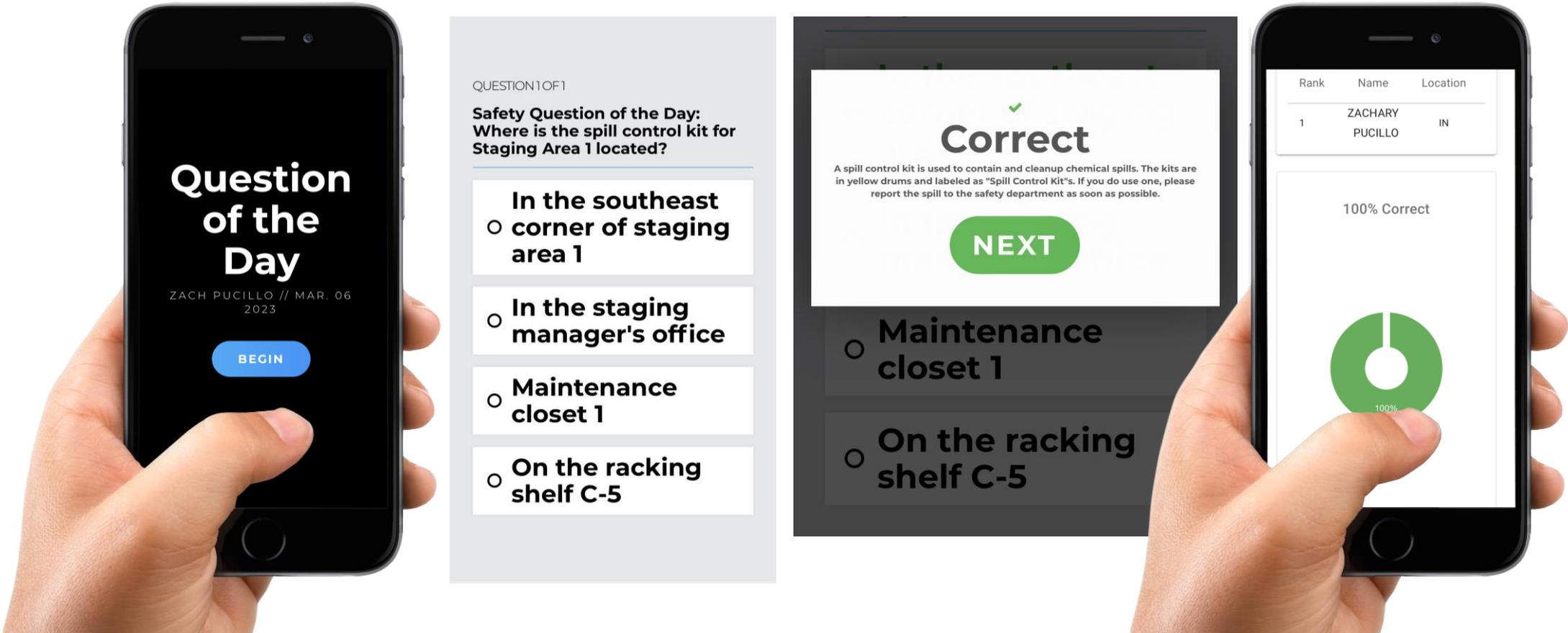
- Follow all manufacturer's instructions for setup and use
- Always wear the required PPE
- Make sure a fire extinguisher is readily available for immediate use
- Inspect ALL components of the system prior to beginning
- Verify that the pressure relief valve is operable
- Confirm flashback arrestor is installed
- Set the psi on each regulator according to the manufacturer's recommendations
- **Never** face or stand over the gauges when turning on the gas
- Turn the valves on **slowly** using quarter turns
- Use a torch striker to light the torch
- Fully turn off the cylinder valves when finished
- Purge the gas lines when finished
- Inspect the work area prior to leaving

If you have any questions feel free to contact a KPA consultant at [800-486-0400](tel:800-486-0400) or support@kpaonline.com

This supplemental safety guidance sheet is designed as a quick reference to be used in conjunction with the manufacturer's setup instructions, operation manuals, and other guidance documents. If this document contradicts the manufacturer's guidance in any way, the manufacturer's guidance should be followed. Proper training prior to equipment use using manufacturer's guidance is mandatory.

Embracing Technology

Communication is key in your Safety Initiatives



Embracing Technology

Use of mobile apps can assist your employees with achieving safety goals

NIOSH Ladder Safety App



NIOSH OSHA Heat App



Harness Hero



NSC First Aid App



NIOSH PPE Tracking App



NIOSH Chemical Pocket Guide



Emergency Response Guide book 2020



Bowen EHS Safety Exam Pro



Software Platform Services

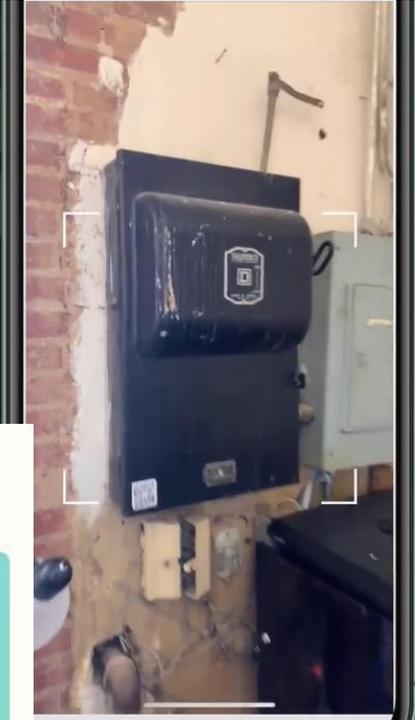
There are several companies who can help streamline efficiency



All Trainings, Status Active

27 Expired | 0 Expiring | 4 Active | 0 Exempt

Training	Incomplete	Expiring	Active	% Complete
Aboveground Storage Tanks	1	0	1	0%
Abusive Workplace Conduct Prevention - Spanish	2	0	13	0%
Access to Medical and Exposure Records	0	0	0	-
Active Shooter	205	0	0	0%
Active Shooter Awareness - Recycling Industry	0	0	1	-
ADA Employment Decisions	0	0	0	-
Aerial Lifts and Elevated Platform Safety	0	0	13	-
Area Manager Training	7	0	0	0%
Area Supervisor Training	2	0	0	0%
Assembly Training	19	0	0	0%



Parent

Location: Denver

Line of Business: Electrical

Companies: -

Assigned To: -

Attachments: None

No notes

ANNUAL INSPECTION: UP TO DATE + Add Inspection

Date: September 4, 2019

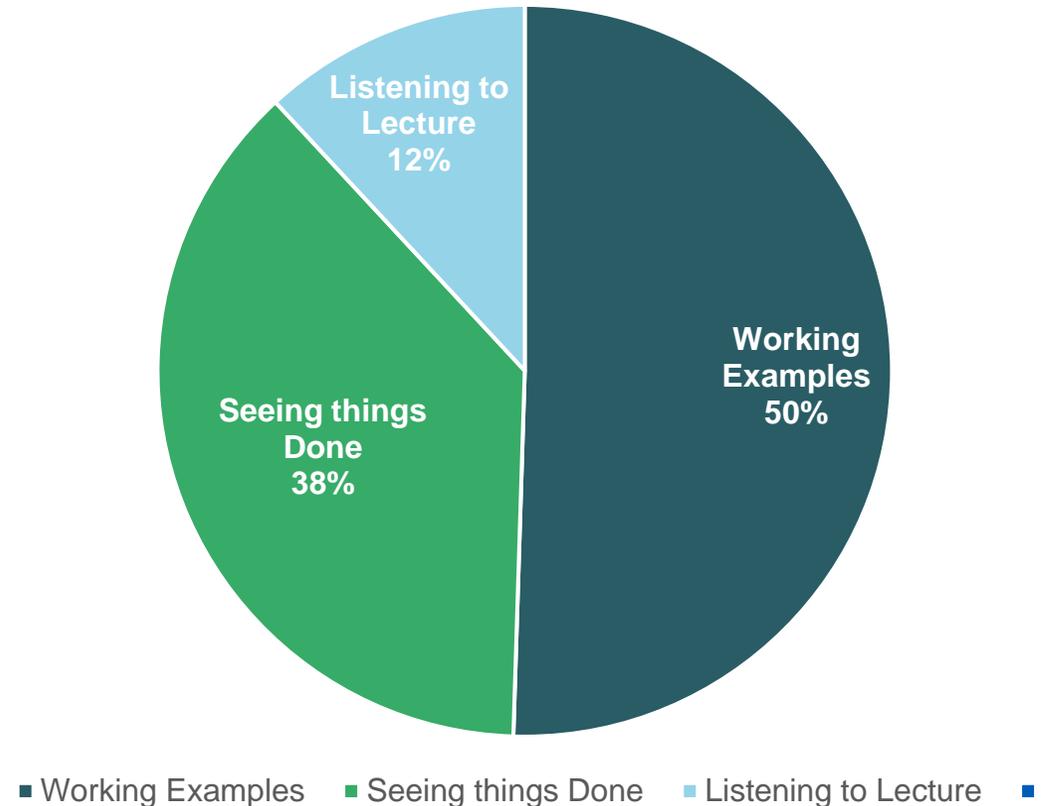
Delete This Equipment | Change Type

Communication

Engaging them as responsible workers

- Vulnerability
 - What is their realistic career goals
 - How can you help them
 - Make their importance known
 - Empathize with what they are going through
- Reassurance
 - 40% of Gen Zers want daily interactions with their boss or think they've done something wrong⁶
- Identify “Coyotes” and separate them from the pack
- Create opportunity
 - Assign them as leads on tasks
 - Run point on lead indicator data assessments

How Gen Z Prefers to Learn ⁶



3. Proactive Design

Proactive Design

Leading Indicators vs Lagging Indicators

Leading Indicators

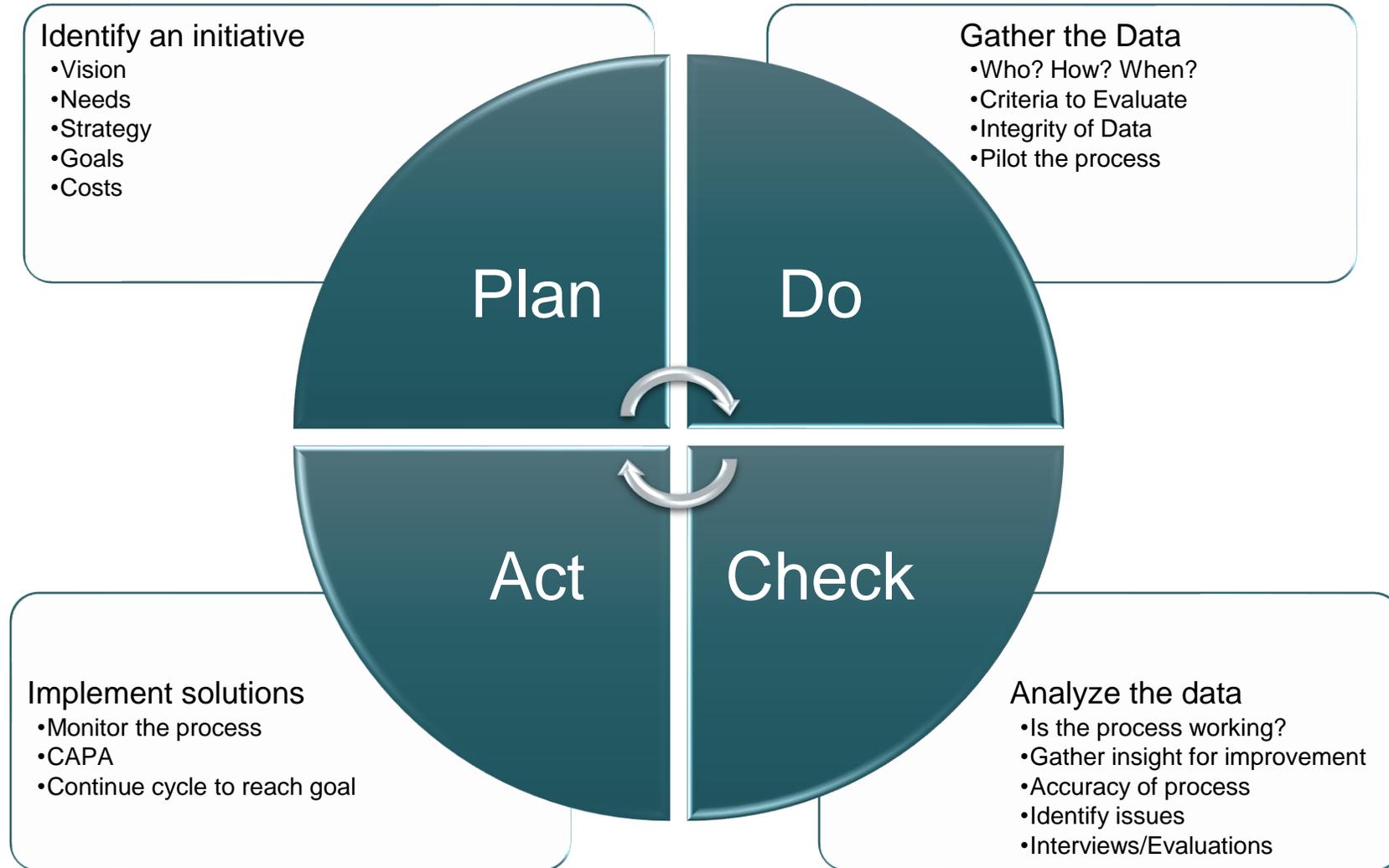
- Risk Assessments
- Hazard Assessments
- Supervisor Training
- Employee Training
- Safety Committee Meeting Attendance
- Walk Through Audits
- Employee suggestions

Lagging Indicators

- Recordable Injuries
- Citations
- Case Rates (Incidence and DART)
- Worker's Comp Claims
- EMR

Proactive Design

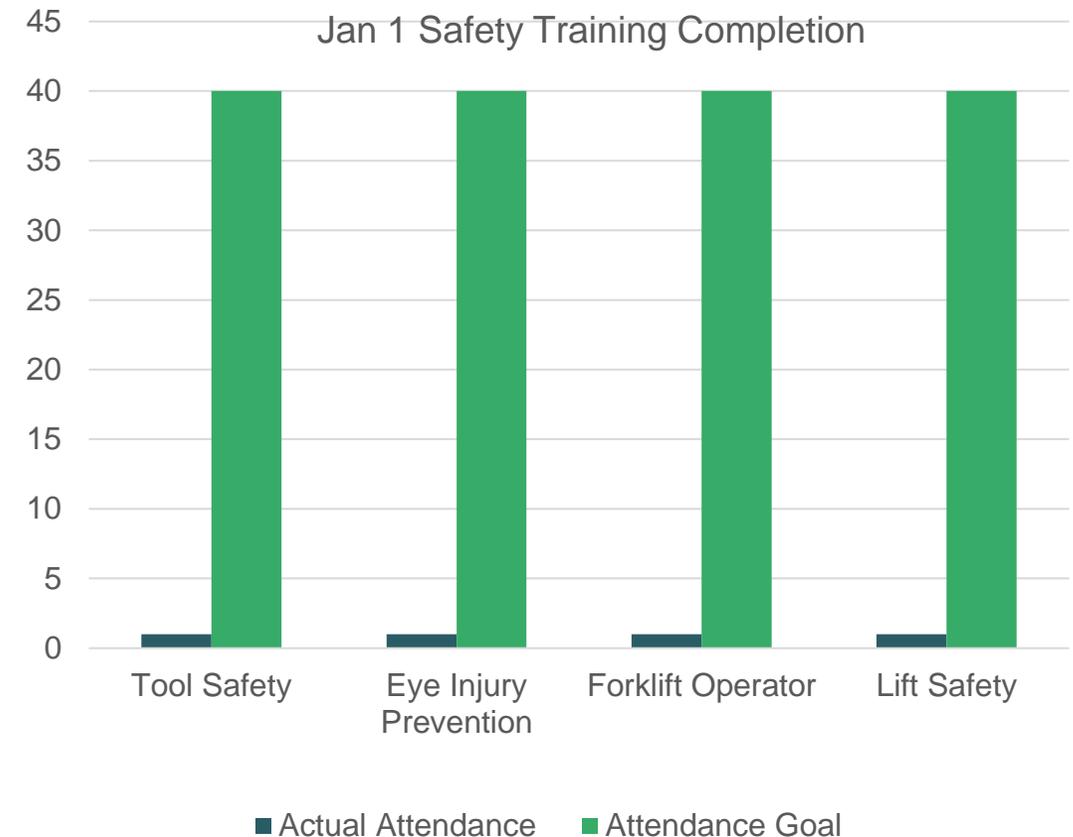
Measure your Performance: Plan Do Check Act



Proactive Design

Measure your Performance: Leading Indicator Example 1

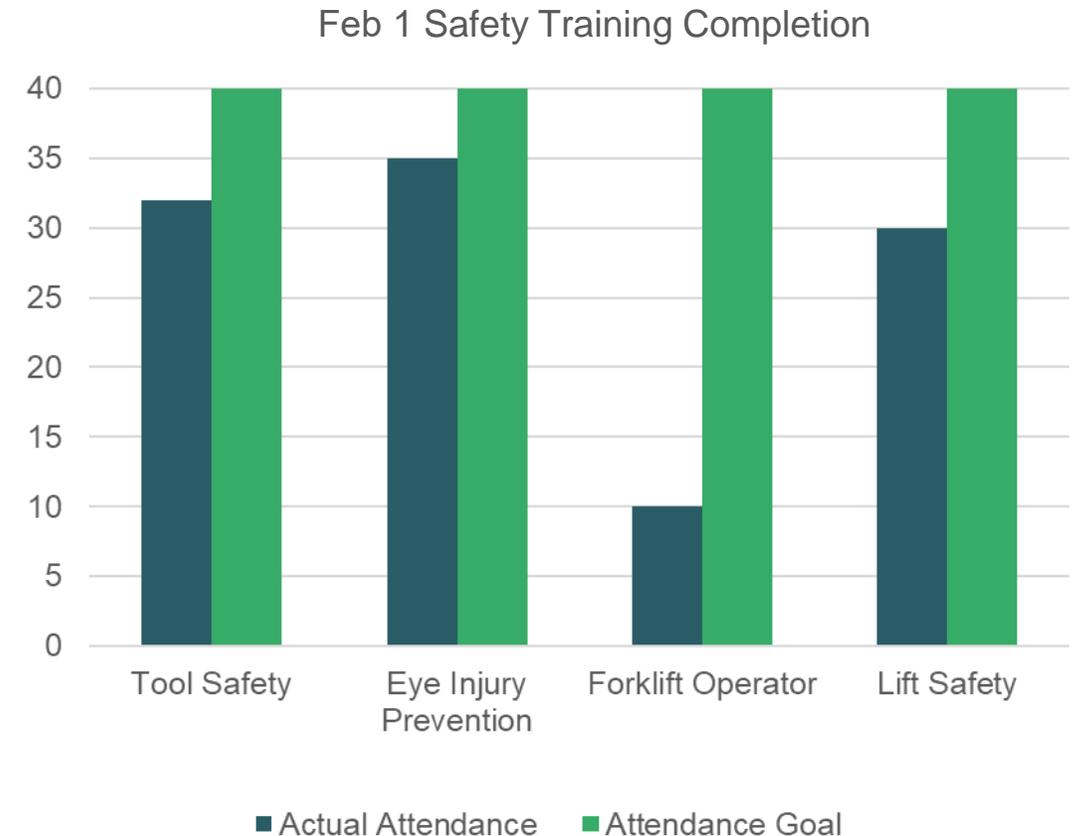
- We must adopt a safety training program
 - Create a risk assessment to determine which courses
 - Let's use an actual sitdown classroom style to ensure completion
 - The courses will be taught by a combination of line leads with experience
- Set a SMART goal for indicator
 - Specific
 - Measurable
 - Accountable
 - Reasonable
 - Timely
- We will achieve 100% safety training completion in four safety courses by March 1st



Proactive Design

Measure your Performance: Example 1 Analyze Progress and Shift Resources

- “Why is Forklift Operator not progressing?”
 - Requires driver’s practice and test
 - The forklift is not available for practice
 - Department managers are unaware of test administration
- Solutions
 - Setup timeframes and obstacles area for forklift practice
 - Review forklift testing requirements with supervisor team

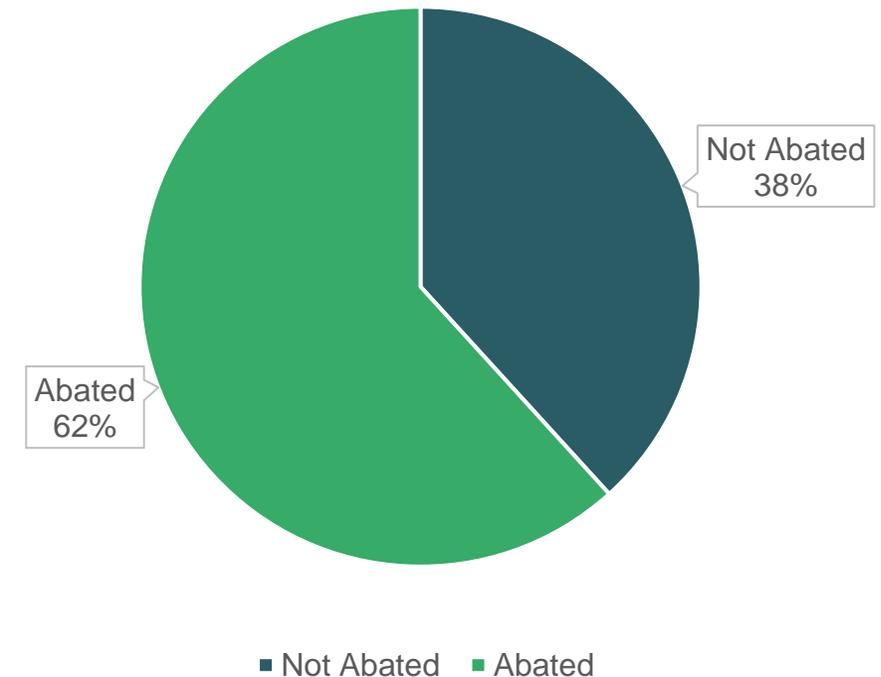


Proactive Design

Measure your Performance: Leading Indicator Example 2

- Improve the percentage of hazards abated in the same week they were identified to 85% by April 1st
 - “Why are we not improving to the 85% goal?”
 - Tasks are assigned to the maintenance team only who have been busy with snow clearing
 - Approval for spending on hazard correction is a multi-step process due to purchase orders
 - Solutions
 - Appoint a hazard correction team which includes employees from all departments
 - Establish a credit card for safety spending with a set limit

Hazards Abated During Same Week Identified Feb 1st – 5th



Proactive Design

Can you measure the accountability of management? You bet you can!

Management Support Leading Indicators

- Percentage of supervisors who attend mandatory safety and health training for workers
- Number of times each month that top management initiates discussion of a safety and health topic
- Average score on survey questions related to workers' perception of management's safety and health commitment
- Number of worker-reported hazards or concerns for which employers initiated corrective action within 48 hours (compared to the total number of such reports)
- Average time between worker report of a hazard or concern and management acknowledgement of the report
- Number of safety-related line items in budget and percentage of these fully funded each year

Proactive Design

Each of these can be a measurable leading indicator

- Asked for feedback on good safety goals ahead of safety meetings
- Number of workers involved in developing safety procedures
- Participating in tool-box talks
- Participating in injury investigations
- Safety perception survey participation rate
- Developing task-specific job safety analyses/job hazard analyses on how to perform routine tasks safely
- Participating in accident investigation teams and helping to identify/implement corrective actions to eliminate hazards

Measure Your Safety Performance

More examples of leading indicators

- Frequency with which preventive equipment maintenance tasks are initiated and completed on schedule
- Number of hours passed after an incident before an investigation is started
- Number of hours passed after an incident before an investigation is completed
- Percentage of incident investigations that include a root cause investigation
- Percentage of daily/weekly/monthly inspections completed
- Percentage of inspections that include a follow-up inspection to ensure that the hazard has been controlled
- Number of trainings provided to workers on hazard recognition and control as compared to worker attendance rates at these trainings
- Percentage of workers receiving mandatory training on schedule
- Percentage of incident investigations listing insufficient number of workers trained on how to recognize and report a hazard or near miss as compared to the number of workers that report understanding the training they have received
- Percentage of improvement on post-training assessment scores over pre-training assessment score.

Source: https://www.osha.gov/sites/default/files/OSHA_Leading_Indicators.pdf



Questions?

Thank you for your attendance and attention!

Zach Pucillo CSP, CHMM zpucillo@kpa.io 317-201-2335

References

- ¹ NIOSH (2022). Analysis of the Current Population Survey. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. Unpublished.
- ² Bureau of Labor Statistics (2022). [Table A-7. Fatal occupational injuries by worker characteristics and event or exposure, all United States, 2020.](#)
- ³ Bureau of Labor Statistics (2022). [Case and Demographic Incidence Rates \(bls.gov\).](#)
- ⁴ NIOSH (2022). [Work-RISQS Number query \(cdc.gov\).](#)
- ⁵ <https://www.purdueglobal.edu/education-partnerships/generational-workforce-differences-infographic/>
- ⁶ <https://www.ehstoday.com/training-and-engagement/article/21258134/is-this-the-year-we-learn-how-to-teach-gen-z>