
DEVELOPING A EFFECTIVE HSE LEADING INDICATOR PROGRAM

FAIRBANKS, OCTOBER 2019



LAGGING INDICATORS ARE A THING OF THE PAST, LITERALLY

- Lagging indicators measure failure
- Traditional rate based indicators undermine safety
- They discourage incident and injury reporting
- Goal Zero is not realistic. No Incidents, near misses, no hazards and no injuries leads to no reporting
- They have their place and leading the safety effort is not it

LEADING INDICATORS PROACTIVE AND FORWARD LOOKING

- Focused on real time safety performance and continuous improvement.
- Proactive and report what employees are doing on a regular basis to prevent injuries.
- Measure performance and therefore allow for adjustments along the way
- Measure unsafe conditions, unsafe behaviors, and how they are being mitigated
- Measures that will precede an incident and have predictive value
- A good leading indicator is like a compass, it points you in the right direction

LEADING WITH YOUR INDICATORS

- Leadership involvement
- Risk management
- Your employees and company are exposed to hazards.
- Data collection and analysis
 - What hazards and mitigations are being used in the dynamic work environment
- Positive reinforcement
- The ultimate goal is to make a risk manager out of every employee

LEADING INDICATOR EXAMPLES

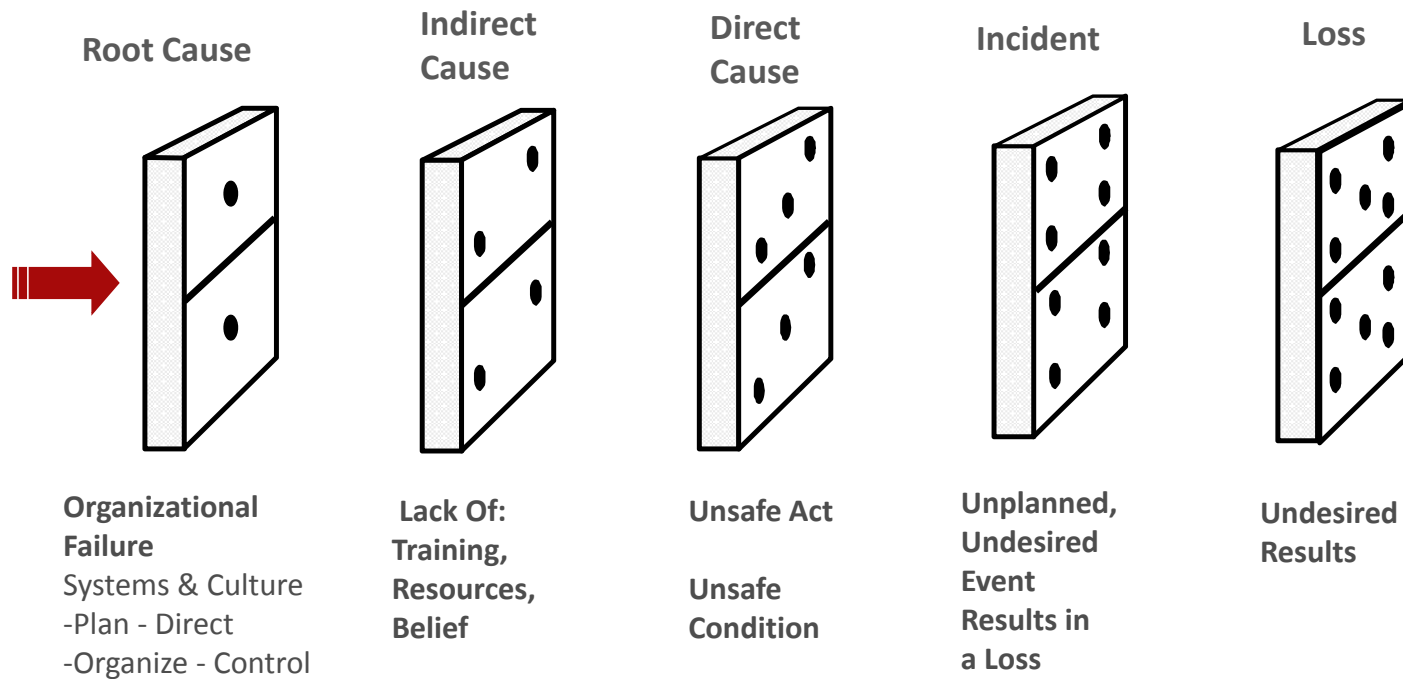
- Audits
- HSE and task specific training
- Near-miss reporting
- Risk reduction opportunities identified and corrected
- Procedures reviewed
- Leadership engagement
- Corrective actions completed
- Risk assessments per job performed
- Lessons learned shared between sites
- HSE goals set and achieved (% of)
- Higher level hazard controls vs low level (i.e. engineering vs administrative or PPE)
- Delivery of risk management training
- Safety and production critical maintenance completed to plan

LEADING INDICATOR STRATEGY

- Audits Program
- HSE and task specific training
- Near-miss reporting
- Risk reduction opportunities identified and corrected
- Leadership engagement

HOW INCIDENTS HAPPEN

A Basic Incident Causation Model



TWO PHASE STRATEGY

- Risk Observation and Mitigation Program
- Positive Recognition program

RISK OBSERVATION & MITIGATION PROGRAM

- Leading Indicator Program
- Leadership involved with the workforce
- Non-traditional observation program
- Identifies areas of organizational risk
- Every risk observation requires an intervention
- Near miss reporting tool
- Technology solutions automate process

FAIRWEATHER, LLC - DEADHORSE AVIATION CENTER - FAIRWEATHER SCIENCE - TULUGAQ II

The image shows a tilted view of a Risk Observation & Mitigation Program form. The form is a grid with multiple columns and rows. The top section contains a header with various fields and checkboxes. Below the header, the grid is populated with data, including several colored markers (red, green, blue, yellow, purple) that likely represent different risk levels or categories. The bottom section of the form is mostly blank, suggesting it is a template or a form with a large area for notes or additional information.

DATA COLLECTION TOOL – RISK OBSERVATION & MITIGATION CARD

What kind task was observed? (Circle One)			
Working at Elevation	Lift Ops/Rigging	Mobile Equip. Ops	Energy Isolation/LOTO
Confined Space	Electrical	Excavation	Hazardous Materials
Driving	Disposal	Hot work	Manual Lifting
Scaffolding	Use of Hand/Power Tools	Walking	Other:
What item category was involved?			
Access/Egress	Fire Safety Equipment	Permits	Shielding
Air/Atmosphere	Ground/Bond	Plans	Signals
Barricades/Sign	Hand/Power Tools	PPE - Eye	Spotter
Blind	Housekeeping	PPE - Face	Stairs
Block	Inspection	PPE - Foot	Storage
Communication	Jack Stands/Chocks	PPE - Hand	Valve
Containment	Journey Mgmt	PPE - Hearing	Ventilation
Debris	Labels/SDS	PPE other	Walkways/Entryways
Disposal Equip/Docs	Ladder	Radio	Waste
Equipment	Lighting	Hazard/Risk Assessment	Weather
Fail Protection	Materials	Safety System	Whip Check
Fatigue Management	Overhead Doors	Scaffold	Other:
What condition(s) were the items in?			
Closed	Energized	In Line of Fire	Open
Cold	Fall Hazard	In motion	Poor
Combustible/Flammable	Hazardous	Loud	Slip Hazard
Congested	Heavy	Missing	Toxic
Damaged	Hot	Dropped object hazard	Trip Hazard
Defective	Improper/Incorrect	Obstruction	Vibration
Other:			
What Behaviors(s) was observed during the activity?			
Complacent	Frustrated	Not Using Handrail	Procedure not followed
Did not verify	Horseplay	Overexertion	Rushing
Distracted	No 3 Points of Contact	Overloading	Other:
Fatigued	Not Used	Poor Ergonomics	
What mitigation was utilized			
Engineering Controls	Elimination	PPE	Substitution
Work Practice	Other:		

Circle a scenario the best describes what you observed.

Observation - An at risk behavior or condition. Examples: Driving/operating at excessive speed, not wearing PPE, tool in poor condition, icy surface, missing or incorrect hazardous communication information, poor housekeeping, etc.

Near Miss - an *undesired event* that did not result in injury or damage. Examples: falling ice without striking a person, depressurization without injury, tool breaking while in use, etc.

Briefly describe your observation:

Briefly describe the conversation(s) you had and/or the action(s) taken:

Circle the Indirect Cause that applies to the observation

Please circle the Worst Potential Severity (WPS) should an incident have occurred.				
1	2	3	4	5
Minor scratch or similar	First Aid injury at worst	Lost time or recordable	Disablement	Fatality

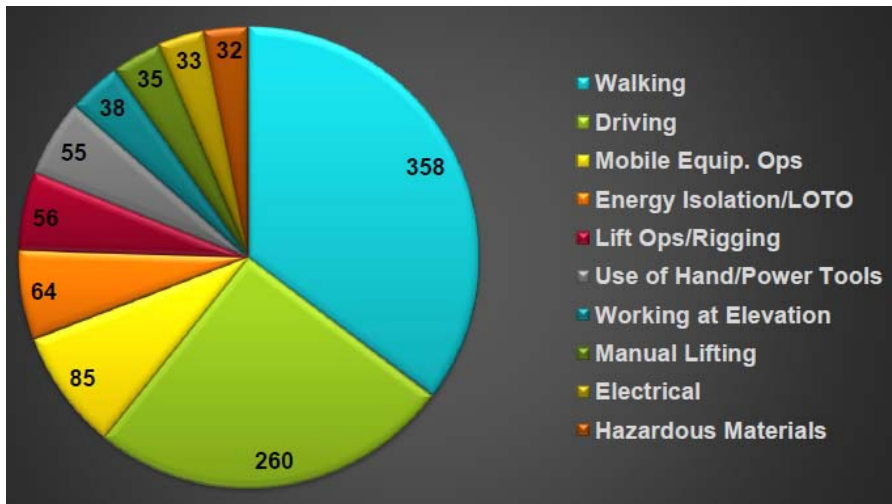
Training Beliefs/Attitude Resources

POSITIVE RECOGNITION

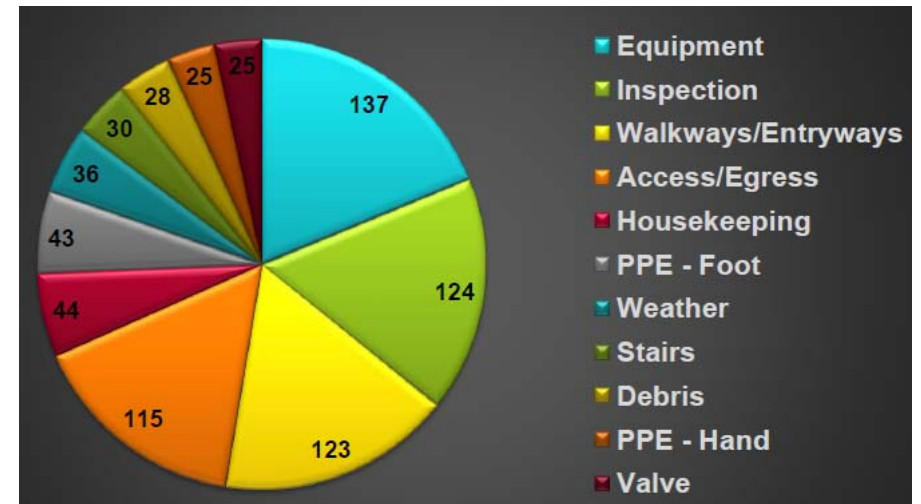
- John Doe: Just wanted to take a moment to say thanks for your recognition of a potential dropped object when you saw a lowboy trailer with a loose strap. Not only did you recognize the risk, you intervened. That's what is helping to drive down the risk our work family brothers and sisters are exposed to. one intervention at a time! I sincerely appreciate your leadership.
- Mary Jo: Thank you for the ROM card that you did on 12/18/18. While an employee was prepping to remove a generator you noticed that the rest of the engine was not supported. You stopped the job and discussed with the employee the potential hazard of not having the engine supported while removing the generator end, and then helped the employee put a block in place to support the engine. This could have been serious and I thank you for the quality observation and intervention. Keep it up!
- Jerome Stevens: Thank you to the Shop Supervisor and work force for a thorough inspection of a borrowed electric manlift. The inspection identified issues which prohibited the safe use of the equipment. The information was shared back to the owner of the unit. Great pre-use check team.

TOP 10

AT-RISK TASKS



AT-RISK ITEMS



HIGH SEVERITY RISK MITIGATION & LOCAL LEADERSHIP INVOLVEMENT

Work Group	At-Risk Task	Category	Severity	Comments
Maintenance	Lifting Operations	Mobile Equipment	4	Fume sucker arms that were installed shop could possibly extend into energized crane bus bar, welded stops on arm preventing future exposure.
Construction	Lifting Operations	Lifting and Rigging	5	While flying out upper section with crane, employee was walking toward suspended load. I noticed his path and reminded him of the hazard.
Maintenance	N/A	Hazard Recognition	4	Lift plan for moving items created potential for personnel to be injured. Contacted Foreman, modified plan to eliminate the hazard.
Maintenance	Lifting Operations	Lifting and Rigging	4	While removing 700lb actuator it rotated unexpectedly. Pre-planning ensured employees were out of the line of fire

NEAR MISSES

- An employee was preparing to cross the road traveling from LD Shop to HD Shop when they encountered a 3rd party contractor pick up turning onto the road from the main Road. The vehicle did not yield or stop for the crossing person. The employee stopped and stepped backwards a couple steps. The pedestrian was wearing all of the appropriate and required PPE including a reflective vest and personal flashing beacon, and was walking inside of the designated crosswalk.
- While climbing a ladder in well house, the ladder swung toward the scaffold rail next to where employee hands were placed. Employee was able to slide hands down to avoid a pinch point.
- A mechanic had been working on a truck then left the shop to get a part. As the truck he had been working on was sitting in the shop, the engine automatically started via the remote start system at approximately 4:45. This could have resulted in injury if the employee was still working on it. The lockout devices normally used to disable this from happening were in place and the key was out of the ignition.
- Employee grabbed a wire rope whip check from their tanker. As the employee gripped the whip check a few frayed strands of the wire rope penetrated the employee's leather glove. The employee's hand was not punctured when this occurred.

PHASE II – POSITIVE RECOGNITION PROGRAM

- List the top ten behaviors your organization wants to improve
- Determine what methods of positive recognition you want to implement
 - Best-of style communications
 - Visa / Gift Cards
 - Personal emails
 - Public celebrations (i.e. Safety Meeting)
 - Need process for immediate, positive, & Certain
- Tracking

Name: _____	
Location: _____	
Department: _____	Time: _____
Given By: _____	Date: _____
GIVEN FOR:	
<input type="checkbox"/> Self-reporting a near miss	<input type="checkbox"/> Exceptional pre-task hazard assessment
<input type="checkbox"/> Proper "stop the job" practices	<input type="checkbox"/> Delivering an exceptional toolbox message
<input type="checkbox"/> Monthly Focus Area	<input type="checkbox"/> Identifying scaffolding deficiencies pre-use
<input type="checkbox"/> Completion of pre-use inspection	<input type="checkbox"/> Corrected an at-risk behavior/condition
<input type="checkbox"/> Removing defective equipment from service	<input type="checkbox"/> Identifying/correcting dropped object risk

PHASE II – POSITIVE RECOGNITION PROGRAM

- Exceptional Pre-Task Risk Analysis
- Self Reporting a Near Miss
- Correcting at-risk behavior / condition
- Proper use of PPE
- Correctly following Procedure
- Bringing forward CI Opportunity
- Updating existing SOP
- Proper Stop the Job Practice
- Good Pre-Use Inspection
- Removing Defective Equipment from Service
- ID & Correct Dropped Object Risk
- Exceptional Tool Box / Safety Meeting Message

ORGANIZATIONAL FOCUS AREAS – ACTIVE & ENGAGED LEADERSHIP

Focus Area	Fact	Recommended Actions
Dropped Object Prevention	Improper tool placement at height has been observed, and two dropped object Near misses in previous month.	Shop leadership to conduct dropped prevention audits and ensure communication of lessons learned from Dropped Object Near Misses.
Hot work	This is the primary ongoing activity in the shop at this time, and the second highest ROM category YTD.	Shop leadership to conduct regular hot work walk checks with an emphasis on procedure, PPE, tools, and equipment.
Lifting Operations	One lifting operations Near Miss in February.	Ensure thorough Sim Ops during third party lifting operations. Shop leadership to supervise all third party lifts.

ORGANIZATIONAL FOCUS AREAS – ACTIVE & ENGAGED LEADERSHIP

Top Focus Area	Fact	Recommended Actions
Improve Leadership Competency	Significant number of leaders are relatively new in the leadership role and have not had HSE leadership training	Implement Leadership Training for all leaders; implement monthly performance review with all group leaders
Improve hazard recognition/crew level planning	Elevated number of risk observations in planning and Haz Rec categories. Also identified through Incident investigations	Improve tools in place; convey expectations in leadership training; implement assessment process with leadership & measure results
Enhance quality/value of verification processes	Current verification processes are not reducing risk sufficiently	Continue actions to enhance ROM engagement at all levels; groups to do audits targeted to their specific risks
Improve & expand HSE Communications Internal/External	We are not effectively communicating internally and externally; not celebrating successes (people) enough	Enhance communication of positive actions; implement group-specific communication plans; enhance good catch/near miss LL

HSE DASHBOARD

Highlight top 3 to 5 leading indicators your organization needs improvement on.

Group	Near Miss Ratio		HSE Training Compliance	ROM Engagement Rate		Audit Rate	
	October	YTD		October	YTD	October	YTD
Plant	11926.00	15680.31	N/A	123	307	2045	4584
Construction	3037.50	13943.22	97%	40	223	5122	3012
Transport	5962.50	10345.73	96%	147	216	10235	12897
Infrastructure	2184.00	2422.75	95%	104	120	3123	3450
Fire & Gas	Nule	18032.47	90%	124	121	8765	4697
Maint	Nule	25186.65	94%	146	192	4057	4465
HD Shop	3576.67	7767.20	95%	69	180	1138	5689
LD Shop	8174.00	7680.36	97%	120	111	908	2268
Crane	6054.00	11012.86	92%	80	172	5300	3456
Turn Arounds	Nule	35193.40	95%	100	152	2250	3677
Drilling	11177.00	7613.09	96%	107	110	7789	6532

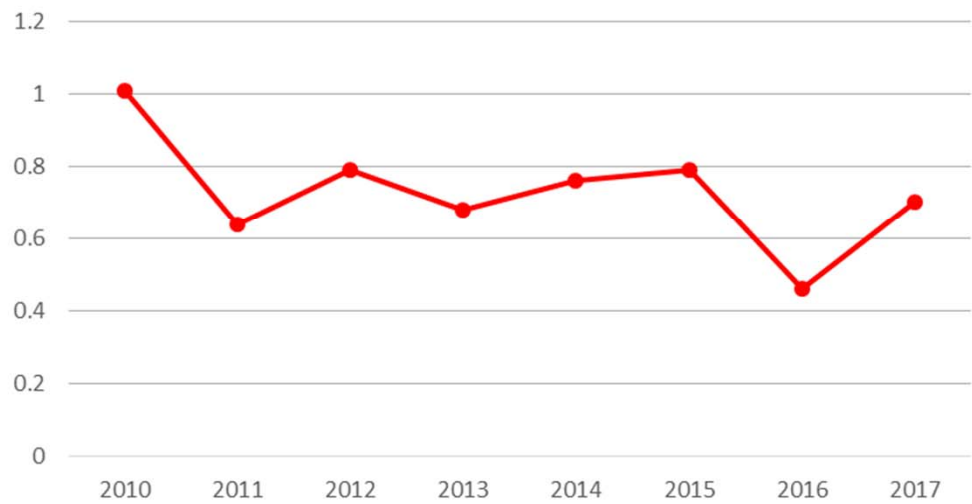
Near Miss Ratio	≤7000	7000 - 10500	≥10500	Near Miss Ratio
HSE Training Compliance (%)	≥90	85-89	<85	HSE Training Compliance (%)
ROC Rate	≤150	151-200	>200	ROC Rate
Audit Rate	≤3500	3500-5250	>5250	Audit Rate

N

I

MARKED REDUCTION IN LAGGING INDICATORS

TRIR



RECORDABLES

