USE THE ENERGY WHEEL TO END THE GAME OF CHANCE

James A. Woodward Sr., MS
• Father of 3
• Youth Baseball Coach
• Youth Basketball Coach
• Tournament Director
• Baseball Umpire
• ASSP Chesapeake Chapter Vice President
  • 2022 Safety Professional of the Year
SAFETY PROFESSIONAL OF THE YEAR AWARD - 2022

Presented to
JAMES WOODWARD

In recognition of your outstanding achievement in the occupational safety and health (OSH) field while supporting and advancing the profession overall for your organization, colleagues and The Chesapeake Chapter, American Society of Safety Professionals.
- University of Baltimore 2005- BA Criminal Justice
- University of Baltimore 2007- MS Courts & Law
- Regional Safety Manager- McLean Contracting Company
OBJECTIVES

- Introduction
- Hazard Identification Overview
- Training Workers in Hazard Identification
- Success Story
- Energy Wheel & Pre-Planning
- Moving Forward- Energy Wheel & Leading Indicators
- Moving Forward- Energy Wheel & Lagging Indicators
- Summary
HAZARD IDENTIFICATION OVERVIEW

DEFINITION

HAZARD

‘A POTENTIAL SOURCE OF HARM.’

Hazard recognition is the first step in situational awareness.
What is the meaning of situational awareness?

Being aware of what is happening around you in terms of where you are, where you are supposed to be, and whether anyone or anything around you is a threat to your health and safety.
TRAINING WORKERS IN HAZARD IDENTIFICATION
What HAZARDS Do You See?
What HAZARDS Do You See?

• Heavy Equipment
• Suspended Load
• Trip Hazards
• Vehicular Traffic
THE CAPE FEAR IS ONE OF MANY IN MCLEAN’S FLEET OF FLOATING CRANES. IF IT WASN’T FOR THE FACT OF THE MATTER OF ITS FLOATING ABILITIES, IT WOULD HAVE A LIFTING CAPACITY OF MORE THAN FOUR HUNDRED TONS.
HOW MANY LETTER F'S WERE IDENTIFIED?
THE CAPE FEAR IS ONE OF MANY IN MCLEAN’S FLEET OF FLOATING CRANES. IF IT WASN’T FOR THE FACT OF THE MATTER OF ITS FLOATING ABILITIES, IT WOULD HAVE A LIFTING CAPACITY OF MORE THAN FOUR HUNDRED TONS.
WHY?
HAZARD RECOGNITION – COUNT THE FS

THE SAFETY OF ALL OF MCLEAN’S FIELD PERSONNEL IS FOCUSED ON FINDING AND FIXING HAZARDS. IF HAZARDS ARE FOUND AND IF FOCUS BECOMES CONTROL OF THOSE HAZARDS, FIELD PERSONNEL ARE LESS LIKELY TO BE INJURED.
HOW MANY LETTER F'S WERE IDENTIFIED?
HAZARD RECOGNITION – COUNT THE FS

THE SAFETY OF ALL OF MCLEAN’S FIELD PERSONNEL IS FOCUSED ON FINDING AND FIXING HAZARDS. IF HAZARDS ARE FOUND AND IF FOCUS BECOMES CONTROL OF THOSE HAZARDS, FIELD PERSONNEL ARE LESS LIKELY TO BE INJURED.
WHY?
ENERGY SOURCES & HAZARD RECOGNITION
HAZARD RECOGNITION: THE ENERGY WHEEL

- Energy Creates Hazards
- Every Hazard comes from an Energy Source
- There are 10 Sources of Energy
10 SOURCES OF ENERGY

- MECHANICAL
- ELECTRICAL
- PRESSURE
- TEMPERATURE
- CHEMICAL
- BIOLOGICAL
- RADIATION
- SOUND
- GRAVITY
- MOTION
Dr. Matthew R. Hallowell, Ph.D.
Professor- University of Colorado @ Boulder
Executive Director- Construction Safety Research Alliance

- Examined 4,800 Worker Hours of Observation
- Workers Identified Approximately 45% of Present Hazards
- Using the Energy Wheel Increased Hazard Identification by 30%
“Every injury is the result of some undesirable contact between a human being and an energy source.”

-Dr. Matthew Hallowell
WHAT'S THE POINT?
What ENERGY SOURCES Do You See?
GRAVITY

Force caused by the attraction of all masses to the mass of the earth
Gravity: Force caused by the attraction of all masses to the mass of the earth

**EXAMPLES:**
- Falls from Above
- Dropped Objects
- Suspended Loads
MOTION
Change in position of objects or substances
Motion: Change in position of objects or substances

**EXAMPLES:**
- Moving Equipment
- Moving Parts
- Struck By
- Caught In/Between
MECHANICAL
Rotation, vibration, or motion of equipment, materials, or tools.
**EXAMPLES:**

- Gears
- Belts
- Pulleys
- Sprockets

Mechanical: Rotation, vibration, or motion of equipment, materials, or tools.
ELECTRICAL
The presence of an electrical charge or current.
Electrical: The presence of an electrical charge or current.

**EXAMPLES:**
• Hand Tools
• Power Cords & Extension Cords
• Welding Leads
• Overhead Power Lines
• Underground Power Lines
PRESSURE

Liquid or gas compressed or under a vacuum
Pressure: Liquid or gas compressed or under a vacuum

EXAMPLES:
• Hydraulic
• Propylene/Oxygen
• Argon
TEMPERATURE

Extreme Heat or Extreme Cold
EXAMPLES:
• Extreme Heat
• Extreme Cold
• Heat from Equipment
• Welding
• Torch Cutting

Temperature: Extreme Heat or Extreme Cold
CHEMICAL
Reactive elements in the environment
EXAMPLES:
• Hydraulic Fluid
• Paint
• Paint Thinner
• Concrete
• Epoxy
• Fuels
  • Gasoline
  • Diesel
  • Propane

Chemical: Reactive elements in the environment
BIOLOGICAL
Living organisms that pose health risks
Biological: Living organisms that pose health risks

EXAMPLES:
• Mosquitoes
• Ticks
• Spiders
• Snakes
• Rodents
• Marine Life
• Poison Ivy
RADIATION
Elements that emit ions or atomic particles
EXAMPLES:
• Ultra-Violet Rays
  • Sunlight
  • Welding Flash
• Site Specific
  • Soil
  • Dredge Material
  • Excavated Material

Radiation: Elements that emit ions or atomic particles
SOUND
Audible vibrations caused from the contact of two or more objects
EXAMPLES:
• Tractor Trailer
• Equipment
  • Welding Machines
  • Generators
  • Air Compressors
• Power Tools
  • Electric Tools
  • Pneumatic Tools

Sound: Audible vibrations caused from the contact of two or more objects
What ENERGY SOURCES Do You See?

- MECHANICAL
- ELECTRICAL
- PRESSURE
- TEMPERATURE
- CHEMICAL
- BIOLOGICAL
- RADIATION
- SOUND
- GRAVITY
- MOTION
What ENERGY SOURCES Do You See?

1. Recognize Energy Sources
2. Identify Hazards
3. Implement Controls
WHAT'S THE POINT?
Percent of Hazards Identified by Type

- Gravity: 67%
- Motion: 62%
- Mechanical: 44%
- Electrical: 40%
- Sound: 28%
- Pressure: 24%
- Temperature: 20%
- Chemical: 19%
- Radiation: 17%
- Biological: 2%
ELIMINATION
ENGINEERING CONTROLS
ADMINISTRATIVE CONTROLS
PPE

HIERARCHY OF CONTROLS

Eliminate
Barrier
Reduce
Redesign
Method
Personal Protection
Educate
Tell

| Eliminate the hazard
| Isolate or create a permanent barrier
| Substitute or reduce the hazard
| New or redesigned equipment or tool
| Change the way we perform the work
| New or Improved PPE, EFPT
| New training, checklist, job aid
| Communication, documentation change, “re-”
HOW ARE HAZARDS CONTROLLED?

- Elimination
- Engineering Controls
- Administrative Controls
- PPE
SUCCESS

STORY!
ENERGY WHEEL & PRE-PLANNING

- Work Plans
- Activity Hazard Analyses
- Job Briefs
# Activity Work Plans

## Activity Work Plan

**Work Plan No.:**

**Job Name:** BCX Key Crossing Reliability Initiative  
**McLean Job No.:** 5965

**Activity Description:** Installation of Feeder System

**Plan Completed By:** Zach Puller  
**Date:** 9/13/21

**Reviewed / Approved By:**  
**Date:**

**AHA Attached:**  
**Yes**  
**No**  
**IF “No” address safety issues on separate paper**

## Phase Codes & Budget

<table>
<thead>
<tr>
<th>Phase Code</th>
<th>Description</th>
<th>Qty</th>
<th>UM</th>
<th>Rate</th>
<th>Total</th>
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<tr>
<td>262024-1</td>
<td>3IP-2x2” Plastic Lumber - Framing &amp; Install</td>
<td>2</td>
<td>SF</td>
<td>1.941 U/Hr</td>
<td>3.882 MH</td>
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<td>262024-2</td>
<td>3IP-2x2” Plastic Lumber - Framing &amp; Install</td>
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<td>1.791 U/Hr</td>
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<td>262024-3</td>
<td>2.5” UHMW-PE - facsim &amp; install</td>
<td>32</td>
<td>SF</td>
<td>4.818 U/Hr</td>
<td>62.06 MH</td>
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## Production Goal Description

<table>
<thead>
<tr>
<th>Production Goal Description</th>
<th>Rate</th>
<th>Shifts</th>
<th>Crew Size</th>
<th>Milestone Dates (if applicable)</th>
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<tbody>
<tr>
<td>Install 2x2” Plastic Lumber at Tower 2 Foundation</td>
<td>2.42 U/Hr</td>
<td>8</td>
<td>5.25</td>
<td></td>
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<tr>
<td>Install 3x4”x2” Plastic Lumber at Tower 2 Dolphins</td>
<td>1.80 U/Hr</td>
<td>3</td>
<td>7.25</td>
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<tr>
<td>Install 3x4”x3” Plastic Lumber at Tower 3 VOP</td>
<td>3.75 U/Hr</td>
<td>26</td>
<td>30</td>
<td></td>
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<tr>
<td>Install 3x4”x3” Plastic Lumber at Tower 4 VOP</td>
<td>3.75 U/Hr</td>
<td>25.75</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Install 3x4”x3” Plastic Lumber at Tower 5 VOP</td>
<td>3.75 U/Hr</td>
<td>7.25</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Install 3x4”x3” Plastic Lumber at Tower 6 Foundation</td>
<td>2.42 U/Hr</td>
<td>5.25</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Install UHMW-PE Ponder at Tower 2 Foundation</td>
<td>4.80 U/Hr</td>
<td>5.5</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Install UHMW-PE Ponder at Tower 2 Dolphins</td>
<td>2.46 U/Hr</td>
<td>2</td>
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<td></td>
</tr>
<tr>
<td>Install UHMW-PE Ponder at Tower 3 VOP</td>
<td>5.95 U/Hr</td>
<td>25.75</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Install UHMW-PE Ponder at Tower 4 VOP</td>
<td>5.95 U/Hr</td>
<td>25.75</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Install UHMW-PE Ponder at Tower 5 VOP</td>
<td>4.80 U/Hr</td>
<td>13.75</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Install UHMW-PE Ponder at Tower 6 Foundation</td>
<td>5.95 U/Hr</td>
<td>5.5</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

## Work Plan/Sequence

**Activity Steps:**

**Prerequisite Activities**

- Rub and patch the concrete.
## Activity Hazard Analysis (AHA)

<table>
<thead>
<tr>
<th>ACTIVITY WORK TASK</th>
<th>Overall Risk Assessment Code (RAC) (Use highest code)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Activity #</td>
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</table>

### Risk Assessment Code (RAC) Matrix

<table>
<thead>
<tr>
<th>Severity</th>
<th>Frequency</th>
<th>Likely</th>
<th>Occasional</th>
<th>Seldom</th>
<th>Unlikely</th>
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<tbody>
<tr>
<td>Catastrophic</td>
<td>E</td>
<td>E</td>
<td>H</td>
<td>H</td>
<td>M</td>
</tr>
<tr>
<td>Critical</td>
<td>E</td>
<td>H</td>
<td>H</td>
<td>M</td>
<td>L</td>
</tr>
<tr>
<td>Marginal</td>
<td>H</td>
<td>M</td>
<td>M</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>Negligible</td>
<td>M</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
</tr>
</tbody>
</table>

**ACCEPTANCE BY GOVERNMENT DESIGNATED AUTHORITY (GDA)**

Review each "Hazard" with identified safety "Controls" and determine (RAC)

- **E** = EXTREMELY HIGH (PDHO/DIOCC/EOCC)
- **H** = HIGH RISK (FEAD/EDR)
- **M** = MODERATE RISK (CM or ET or PAR)
- **L** = LOW RISK (ET or PAR)

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible after controls are in place.

"Probability" is the likelihood to cause an incident, near miss, or accident did occur and identified as: Frequent, Likely, Occasional, Seldom, or Unlikely after controls are put in place.

### Job Steps

<table>
<thead>
<tr>
<th>Job Steps</th>
<th>Hazards</th>
<th>Controls</th>
<th>RAC</th>
</tr>
</thead>
</table>

The AHA shall be reviewed and modified as necessary to address changing site condition, operations or change of competent/qualified person's
# JOB SAFETY ANALYSIS

## Document Number: FRM-01

<table>
<thead>
<tr>
<th>Job Number:</th>
<th>Job Name:</th>
<th>First Aid Station:</th>
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<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Date/Time:</th>
<th>JSA Facilitator:</th>
<th>Eyewash/Shower:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit/Equipment #:</th>
<th>Emergency (phone/radio):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

### Change in Conditions from previous shift/day?
- ☐ Yes  ☐ No  Comments:

### BOSS cards from previous shift have been reviewed with the crew?
- ☐ Yes  ☐ No  Comments:

### List the task(s) that will be completed today. (Examples of a task include: demolition, material placement, and form work. Individual steps associated with this task should not be listed in this section.)

### List the hazards associated with the task:

<table>
<thead>
<tr>
<th>Task Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
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<tr>
<td>2</td>
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<tr>
<td>3</td>
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<td>9</td>
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<td>10</td>
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</tr>
</tbody>
</table>

### How can we protect ourselves from the hazards?

<table>
<thead>
<tr>
<th>Task Number</th>
<th>Protection Measure</th>
</tr>
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<tbody>
<tr>
<td>1</td>
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</tr>
<tr>
<td>2</td>
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<td>9</td>
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<tr>
<td>10</td>
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</tbody>
</table>

### Personnel Responsible

<table>
<thead>
<tr>
<th>Task Number</th>
<th>Responsible Party</th>
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<tbody>
<tr>
<td>1</td>
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<tr>
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<td>9</td>
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<td>10</td>
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</tbody>
</table>

### What will the crew do to ensure the Company’s safety, quality, and planning processes are followed? (Discuss and document the specific actions that the team will complete today to ensure the work is done according to the plan.)

<table>
<thead>
<tr>
<th>Task Number</th>
<th>Action</th>
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<tbody>
<tr>
<td>1</td>
<td></td>
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<tr>
<td>2</td>
<td></td>
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<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

*If there is more than one work location or multiple tasks, crews should fill out a separate JSA.*
EVERYONE YOU WILL EVER MEET KNOWS SOMETHING YOU DON'T.

~ Bill Nye
**HAND & POWER TOOL HAZARDS**
- Pinch Points
- Moving Parts
- Kickback
- Electrical Hazards
- Flying Debris

**HEAVY EQUIPMENT HAZARDS**
- Suspended Loads/Overhead Hazards
- Moving Equipment
- Rigging Failure
- Travel Path
- Blind Spots/Swing Radius

**EQUIPMENT REPAIR HAZARDS**
- Chemical Hazards
- Fuel Spills
- Pinch Points
- Moving Parts
- Stored Energy

**HIERARCHY OF CONTROLS PYRAMID**

**ENERGY WHEEL**

**9 LIFE SAFETY RULES**
- Always Utilize Fall Protection, per policy
- Never Position Yourself Under a Suspended Load
- Always Wear a PPD, per policy
- Never Use Unapproved Rigging
- Always Follow Trenching and Excavation Procedures
- Never enter a confined space without a permit
- Always Follow LOTO Procedures
- Never Disconnect or Override a Safety Device
- Never operate equipment prior to inspection

**PILE DRIVING HAZARDS**
- Noise Exposure
- Pinch Points
- Falling Loads
- Slips, Trips, and Falls
- Temperature Extremes

**30-30-30**
- Every 30 minutes
- Take 30 seconds
- And look 30 feet around you

**WELDING & BURNING HAZARDS**
- Arc Flash
- Burns
- Fire
- Electrocuton
- Noise Exposure
- Job Brief Audits
- Safety Alert Database
- Root Cause Analyses
- Safety Assessments
- Toolbox Talks
- Behavior Based Safety Tools
- Safety Dollar$
- OSHA 10 Training
  - Focus Four
- OSHA 30 Training
  - Safety Leadership Training
ENERGY WHEEL & LEADING INDICATORS

- Job Brief Audits

![Energy Wheel](image1.png)

- What will the crew do to ensure the company's safety, quality, and planning processes are followed?
- Was someone assigned to do a BOSS card walk around for the day?
- Does the JSA identify all the required PPE to perform each task?
- Does the JSA identify all the hazards associated with the job steps?
- Does the JSA appropriately identify all actions to mitigate each hazard listed?
**Safety Alert Database**

**INCIDENT**
On the afternoon of Saturday, September 18, 2021, a member of the McLean team was assisting with housekeeping tasks at the end of a shift. The team member was tasked with clearing up brick rubble that was lying on the ground. A worker, who was working out of an aerial lift, had lowered his welding lead down to the ground. When he lowered the lead, the electrode holder, or “stinger,” got caught on the top rail of a section of portable chain link fence.

The laborer who was clearing up, at the end of the shift, saw the lead lying on the ground, with the stinger draped over the top rail. With his back turned, the worker picked up the lead, at the base of the fence, and began pulling it. This resulted in three sections of fence falling to the ground, and straining the worker. As the worker was bent, with the chain portion of the fence, he fell to the ground, and rolled his ankle. The worker was taken to a nearby urgent care facility and diagnosed with a fractured right ankle.

**FINDINGS OF THE INVESTIGATION**
- The supervisor facilitated a thorough JSA, prior to starting the shift, with the entire crew.
- The employee that was attempting to pull the lead did not recognize that the stinger was caught on the top rail and did not ask for help in properly removing the stinger.
- The employee who dropped the welding lead did not realize that the stinger was caught on the top rail and continued to pull the aerial lift.

**CORRECTIVE ACTIONS**
- A safety stand-down was conducted, with the entire crew to discuss:
  - Practicing good situational awareness
  - Being cognizant of your surroundings
  - Asking for help when needed
- The entire crew was re-trained on McLean’s 30-30-30 program.
- Additional weight was added to the fence to add rigidity and prevent any occurrence of a trip-over.
Root Cause Analyses
- Safety Assessments
  - Citation Values
Toolbox Talks

ENERGY WHEEL & LEADING INDICATORS

McLean

TOOLBOX TOPIC-
BACK TO SCHOOL SAFETY

Good morning. Although many jurisdictions have already begun the 2022-2023 school year for many students, today is the first day of school. Please keep the following tips in mind to keep the kids in your family and community safe for the next 100 school days.

School Zone Driving Safety Tips

- Be on the lookout for school zone signs and ALWAYs obey the speed limits.
- When entering a school zone, be sure to slow down and obey all traffic laws.
- Always stop at school zones that display stop signs, including schools, bus stops, stop signs, and school buses.
- Watch out for school crossing guards and obey their signals.
- Be aware of and yield to all for children and school buses, pedestrians, in the streets, in school parking lots, etc.
- Never pass school buses, change lanes, make a turn, or stop while driving in a school zone.
- Always turn off cell phones, even if it is completely hands-free, while driving in a school zone.
- Unless marked the on the road, these areas are emergency vehicle lanes or spaces to drop off or pick up children at school.

REMEMBER YOUR CHILDREN

Walking to School

- Leave a early enough to arrive at school at least 30 minutes prior to the start of school.
- Use the same route every day and never use shortcuts.
- Go straight home after school and do not go anywhere else without permission.
- Always use public sidewalks and streets when walking to school.
- Designate a safe conversation spot that you can both agree on between your home and the school and practice walking it with your children.
- Try to walk to school with other students. There is strength in numbers.
- Teach your children to recognize and obey traffic signals, signs, and pavement markings.
- Only cross streets at designated intersections, street corners, and traffic-controlled intersections.
- Always look both ways before crossing the street and never enter streams from between obstacles like railings, cars, shrubbery, signs, etc.
- Always walk and not run across intersections.
- Avoid talking to strangers. Teach your children to get distance between themselves and anyone who tries to approach or make contact with them.
- If a stranger does approach your child, make sure they know to immediately report the incident to you or a teacher.
Behavior Based Safety

BOSS Cards
Behavior Based Safety
Good Catch Reports

GOOD CATCH REPORT

- Date of Incident
- Type
- Description of Incident
- Area
- Process
- Additional Good Catch Comments

Additional figures and diagrams related to energy wheel and leading indicators.
$safety Dollar$
- OSHA 10 Training
  - Focus Four
- OSHA 30 Training
  - Safety Leadership Training

**OSHA 10- Day 1 & Safety On-Boarding**

<table>
<thead>
<tr>
<th>TRAINING TITLE</th>
<th>OSHA CLASS DESIGNATION</th>
<th>LENGTH</th>
<th>TIME</th>
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</thead>
<tbody>
<tr>
<td>Site Safety</td>
<td>Optional</td>
<td>.5 Hours</td>
<td>9:00-9:30</td>
</tr>
<tr>
<td>McLean Safety Rules PPT</td>
<td>PPE</td>
<td>.5 Hours</td>
<td>9:30-10:00</td>
</tr>
<tr>
<td>BREAK</td>
<td></td>
<td></td>
<td>10:00-10:10</td>
</tr>
<tr>
<td>Fall Protection Part 1</td>
<td>Focus Four</td>
<td>1 Hour</td>
<td>10:10-11:10</td>
</tr>
<tr>
<td>Hazard Communication</td>
<td>Health Hazard</td>
<td>.5 Hours</td>
<td>11:10-11:40</td>
</tr>
<tr>
<td>Struck By</td>
<td>Focus Four</td>
<td>.5 Hours</td>
<td>11:40-12:10</td>
</tr>
<tr>
<td>LUNCH</td>
<td></td>
<td></td>
<td>12:10-12:40</td>
</tr>
<tr>
<td>Caught Between</td>
<td>Focus Four</td>
<td>.75 Hour</td>
<td>12:40-1:25</td>
</tr>
<tr>
<td>Confined Space Awareness</td>
<td>Optional</td>
<td>1 Hour</td>
<td>1:25-2:25</td>
</tr>
<tr>
<td>BREAK</td>
<td></td>
<td></td>
<td>2:25-2:35</td>
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<tr>
<td>Hand Tool Safety</td>
<td>Elective</td>
<td>.5 Hours</td>
<td>2:35-3:05</td>
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<tr>
<td>Barge Access/Ladder Safety</td>
<td>Health Hazard</td>
<td>.5 Hours</td>
<td>3:05-3:35</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>5.75 Hours</td>
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</tbody>
</table>
LAGGING INDICATORS?
ENERGY WHEEL & LAGGING INDICATORS

- Number of Incidents
- Number of Regulatory Fines/Citations
- Workers Compensation Claims
- Total Recordable Incident Rate (TRIR)
- Experience Modification Rate (EMR)
## McLean Report - JUL 2022

### Safety Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>MTD</th>
<th>YTD</th>
<th>Rolling 12</th>
<th>YTD %</th>
<th>MTD %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incident</td>
<td>142</td>
<td>77</td>
<td>115</td>
<td>88%</td>
<td>65%</td>
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<tr>
<td>Near Miss</td>
<td>17</td>
<td>26</td>
<td>44</td>
<td>37%</td>
<td>35%</td>
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<tr>
<td>Recordable</td>
<td>1</td>
<td>7</td>
<td>16</td>
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<tr>
<td>VHR</td>
<td>43,688</td>
<td>420,000</td>
<td>496,568</td>
<td>46%</td>
<td>55%</td>
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<tr>
<td>TRH</td>
<td>6.58</td>
<td>3.31</td>
<td>2.87</td>
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<tr>
<td>Good Catch</td>
<td>15</td>
<td>142</td>
<td>726</td>
<td>10%</td>
<td>21%</td>
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<tr>
<td>Recruit</td>
<td>176</td>
<td>105</td>
<td>193</td>
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<td>Safety Assessment</td>
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<td>49</td>
<td>121*</td>
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</table>

### Incident Analysis
- **Purpose**
  - McLean Safety and Health
  - Incident Tracking
- **Key Results**
  - Increase in Incident Reports
  - Reduction in Near Miss Incidents
  - Improvement in Safety Assessment Scores

### Focus Points
- **Equipment**
  - Inspections
  - Training
- **Personal Protective Equipment (PPE)**
  -Eye Protection
  - Respiratory Protection
- **Training**
  - Regular updates
  - New hire training

### Areas for Improvement
- **Site Operations**
  - Communication
  - Emergency procedures
- **Safety Culture**
  - Recognition programs
  - Incentives for safety

### Action Plan
- Improved safety training sessions
- Enhanced equipment maintenance
- Increased communication efforts
• There are 10 Sources of Energy
• Energy Creates Hazards
• Every Hazard Comes From an Energy Source
• Recognize Energy Sources, Identify Corresponding Hazards, Implement Controls
• Hazard Recognition Should Occur at all Levels of Pre-Planning
• Leading Indicators Should be Utilized
• Lagging Indicators Cannot be Ignored


Any Questions?