2015 Safety Awards

Final Presentation

Find It-Fix It

Date: 2014
Location: Wind Farms

Wind Operations fabricated a platform/step to create a safe working surface while replacing failed hardware in the tower damper tank located below the yaw deck.

You are looking down into an approximately 7 foot tank with about 1 foot of oil.

Find It-Fix It

- **Date: June 2014**
- **Location: SP&C Building – Cedar Rapids**
- **Hazard: Outside staircase**

Before Picture	After Picture
	
Summary	**Summary**
The outside steps had previously been removable. These were not in compliance due to the height of the rise of the top stair. Not only was this a building code violation, it caused a tripping hazard.	The SP&C LSLT worked with facilities to get permanent and compliant stairs added. Another set of noncompliant stairs were also removed and permanent rails put in place.

Find It-Fix It

Date: 2014
Location: Wind Farms
Hazard: Previous to this method, a contractor had to either use a crane and/or haul up the contractor's equipment to the nacelle using the nacelle hoist; at this point, they had to physically manipulate the equipment from the nacelle to the hub.

The Wind Operations and Engineering group worked together to engineer and build a hoist support assembly for lifting and lowering equipment to and from the Vestas V-82 hub. Previously, Wind Operations contracted out this work which was costly, time consuming, and not as safe as our new method.

Find It-Fix It

Date: October 9, 2014
Location: ML Kapp Station
Hazard: Fall Hazard; Employees would stand on stepladder and use 2 hands to unplug hoppers which eliminated 3-points of contact creating a fall risk. Portable ladders replaced step ladder to allow 3 points of contact and eliminate the fall hazard

Before Picture	After Picture
	
Summary	**Summary**
Periodically economizer hoppers become plugged and have to be rodded to clear blockage. Employees would stand on stepladder and use two hands to clear blockage. Fall risk from not using three points of contact while on stepladder. Photo is not from economizer hopper location but does show type of stepladder used.	Purchased one portable ladder for employees to test. After approval, purchase three more portable ladders to have two on each side of economizer and also to not have to move over air heater bearing. Portable ladder has larger work platform than stepladder and side rails for extra safety.

Iowa/Illinois Safety Council Annual Safety Award

Lack of a Cleaning station for Respirator Usage.

Before

After

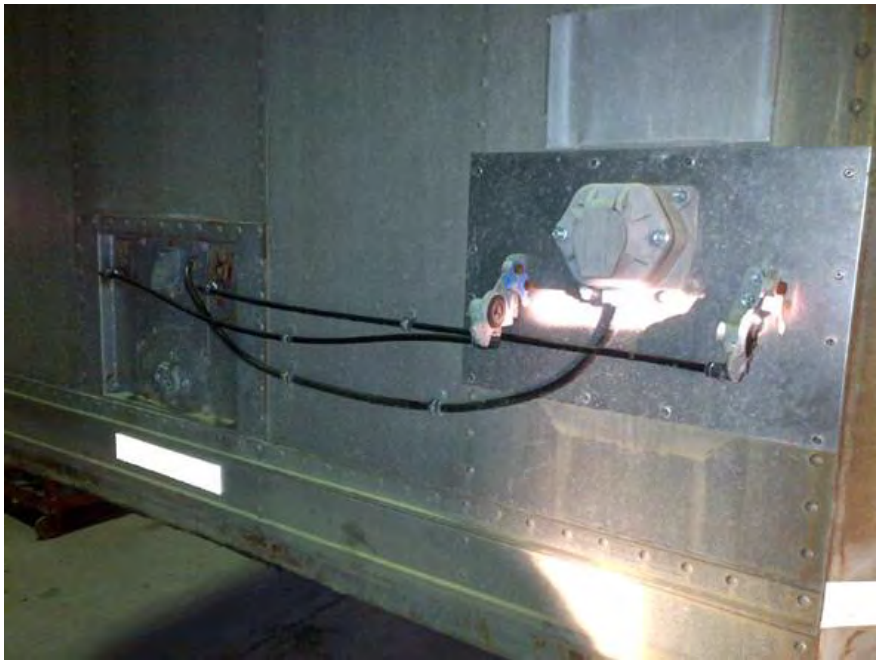
Operator standing for extended period

Before

After

Semi trailer Airlines hook-ups in the Front/Center of the Trailer. Moved to the side

- Moved the airline hookups to the side to prevent the operator to get up on the trailer and hook up



AMERICAN PACKAGING CORPORATION

American Packaging Corporation
Flexographic Printing & Laminating Division

103 West Broad Street
Story City, Iowa 50248
(515) 733-1400

PRODUCT PROCESS SUSTAINABLE

AUTOTIE HORIZONTAL WASTE BALER

HAZARD CONTROL:
Auto-Tie Horizontal Waste Baler

American Packaging Corporation's Flexographic Printing and Laminating Division sought out innovative ideas to reduce the strain that handling and dumping waste dumpsters puts on employees.

APC FP&L accomplished its goal by purchasing and installing a state of the art auto-tie waste baler that features a completely automated dumpster tipper. The auto-tie baler will greatly reduce the strain that manually dumping waste into a compactor placed on employees. Not only does the new equipment reduce the hazard potential for strains and incidents, it creates more space in the plant by compacting three gaylords worth of material into one bale and is projected to increase APC's recycling performance by more than a million pounds in 2015!

HAZARD CONTROL:
Automated Knife Positioning Equipment Upgrade

American Packaging Corporation's Flexographic Printing and Laminating Division sought out innovative means to reduce employee exposure to cut hazards from handling slitter blades in its finishing department. Large rolls of printed film that come off the press need to be slit down into smaller, more manageable rolls before being sent out to customers.

Before the equipment upgrade on this machine, employees would manually position the slitter blades on each roll changeover by hand while wearing cut resistant gloves. The new equipment is completely automated and specifications for knife placement on each roll are entered on a screen. The equipment also features an interlocked plastic guard that has to be in place for the machine to operate. The equipment upgrade is currently being trialed, and based on feedback, APC will likely install identical upgrades on other slitters in the near future.

Automated Knife Positioning Equipment Upgrade

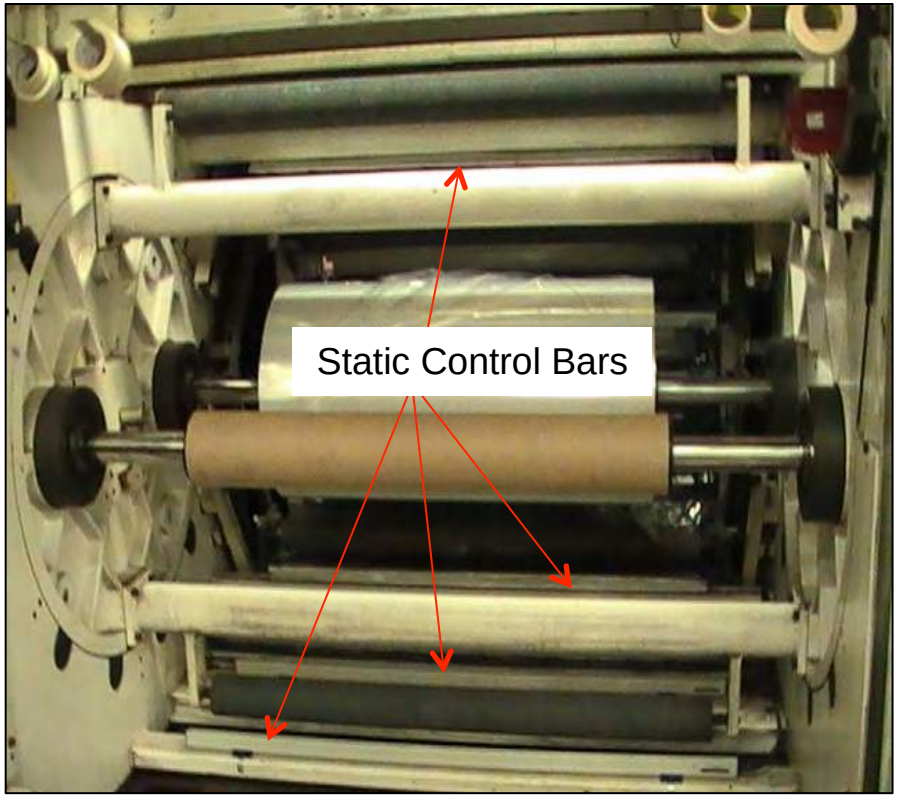
HAZARD CONTROL CONTINUAL IMPROVEMENT : Static Monitors/Alarms and 100% Process Monitoring

American Packaging Corporation Flexographic Printing and Laminating Division's dedication to continuous improvement is exemplified by its act of taking a hazard control from last year's IISC award application to the next level in 2014.

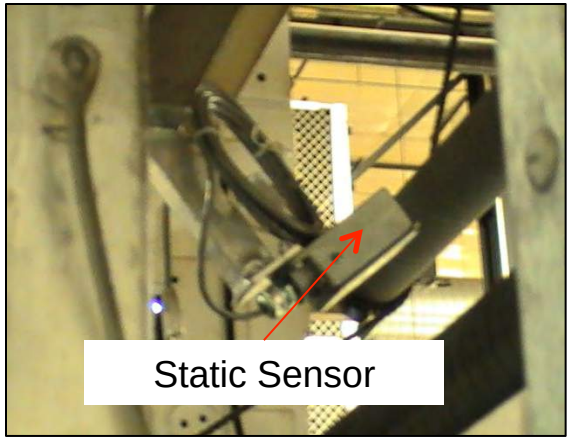
In 2013, APC FP&L reduced the potential for static buildup on its printing presses through static control bars and sensors. Static buildup on web materials has the potential for static discharge up to 20,000 volts, which could result in electrostatic shock to an APC employee or even the ignition of solvent/solvent vapors.

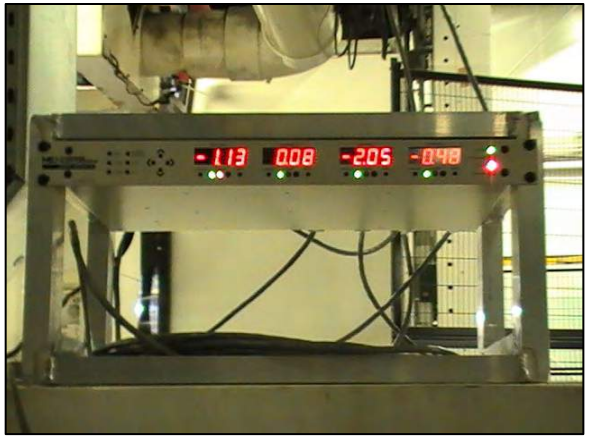
In 2014, APC FP&L took this hazard control to the next level by connecting the active static monitors to its BOBST/EI3 process monitoring software and establishing alarm profiles to alert operators of hazardous static levels. This allows for real time traceability and provides APC a state of the art ability to control the impact of static on both emergency and non emergency process issues.

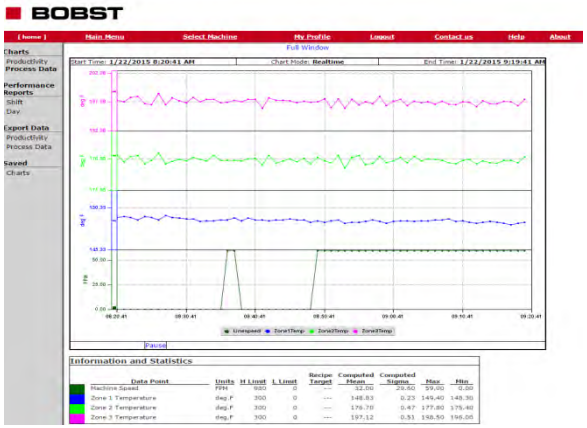
Static Control Bars



Active Static Monitors/Alarms and 100% Process Monitoring







Hand access protection from airlock

Before

After

Cut off ladder and put ladder up with handrails.

Before

After

Eliminate potential for employees to be injured by rotating wrapper carriage or pallet. Barricaded area and installed motion sensor and micro switch on entry gate.

Wrapper 1 Before

Wrapper 1 After

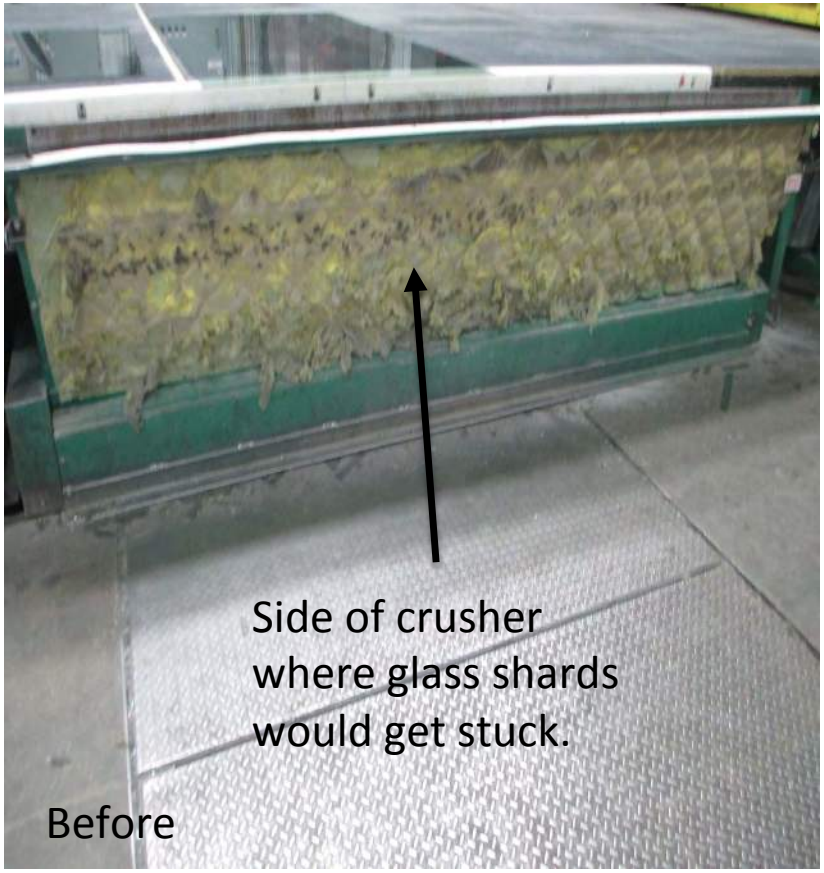
Eliminate potential for employees to be injured by rotating wrapper carriage or pallet. Barricaded area and installed motion sensor and micro switch on entry gate.

Wrapper 2 Before

Wrapper 2 After

At Cardinal IG, our glass cutting tables have crushers on the side where scrap glass from the sheets that are cut is disposed of. The crushers only had a cover of insulation on them to quiet them down. The problem was that sometimes glass shards would fall of the edge of the crusher and get caught in the insulation and be protruding from it. This was a hazard when our glass cutters would walk to the edge of the cutting table and not see the glass shard. It would stick them in the leg.

So we had a local welding company build covers for the crushers. Now when glass shards fall off the edge, they fall to the floor without getting stuck in the insulation!



At Cardinal IG, our facility is almost all concrete and asphalt where employees walk into the facility to start their shift and then they walk back across it when they leave their shift. This presents a problem come winter time with freezing temperatures leading to a very slick parking lot and sidewalks. Although we keep it as slip free as possible by adding sand to the parking lot and salt to the sidewalks, we thought it would be a great idea to add a level of awareness to the facility. So we spent money to install Ice Alert signs at the parking lot entrances and the entrances to the building where employees leave after their shift. When the temperature reaches freezing, the silver area on the Ice Alert signs turn blue, indicating slick conditions could exist. Now when employees come into the parking lot or leave the building and see a blue area on the Ice Alert signs, they know to pay extra attention when coming to and from the facility to avoid slips and falls!

Barrier Removed!!!

July 9th 2014 an observation was done in C*Star.

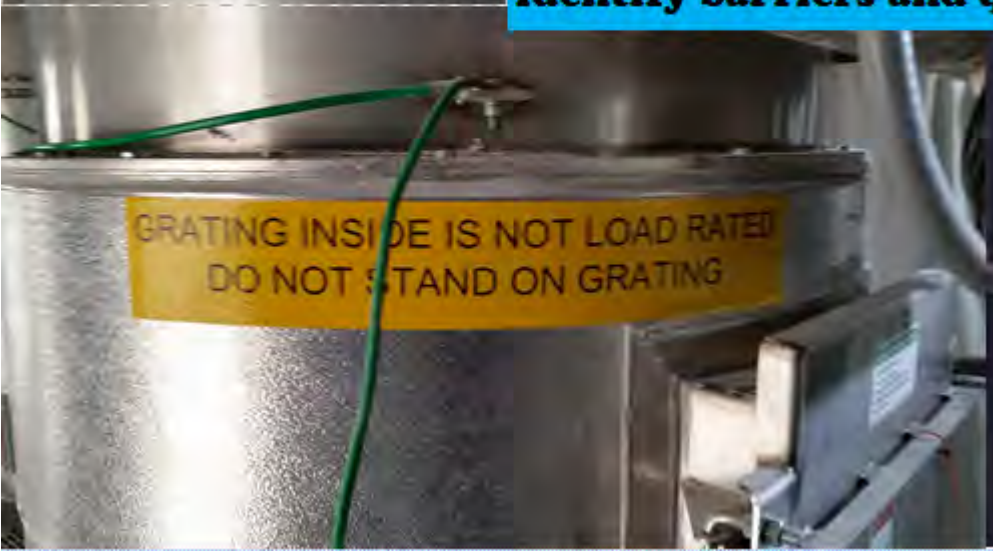
While on grating changing socks.

Was grating much thinner then regular grating and operator could fall into receiving bin.

Because potential fall from grating failure to support load.

Solution verify max load of grating and add fall protection.

The observer marked this to be followed up. Through a combined effort of Observer and M&R Coordinators the vessel was labeled and planks are now available in case of entry. This observation was a prime example of how new eyes on a task can identify barriers and question our new normal. Great Catch !



While: opening the germ dryer doors
Was: force needed to open doors
Because: dryer is under vacuum and top latch cannot be secured
Solution: add latching mechanism and large handle to open door
Try: yes WO# 320828 Yes 6/3/2014

REMOVED

While: filling up fuel tank in skid loader

Was: cuts and bruises

Because: the bolts that hold the hose bracket stick out

Solution: should be cut off or covered

Try: YES safe pace

Barrier Removed

October 13th -observation was done outside the boiler by an operator. Solution was completed October 17th. Great catch and awesome job removing hazard!

Barrier Removed!

While- grabbing dryer sample in Specialty Starch.

Was -a potential to hit, scrape, cut , break or cause general injury to leg! **Ouch!**

Because- paddle mixer frame edge in walkway.

Solution- paint corner to alert of danger and possibly pad to remove barrier.

HAZARD HIP IDENTIFICATION

BARRIER REMOVED!

Even with danger tape covering the hole, the cramped area made this a serious trip hazard

Securing a firm cover over the hole was the only way to make sure nobody twisted an ankle

While: Working in cramped area

Was: Trying to avoid opening in grating that was marked with Danger tape

Because: Hole was cut to add new pipe

Solution: Cover hole with temporary grating to control hazard

Carboy Mixing Station

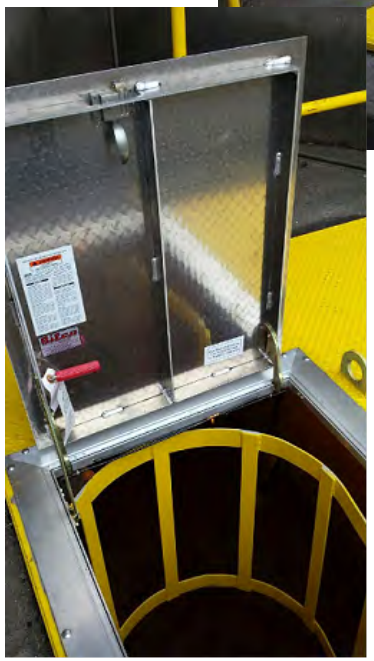
BEFORE

AFTER

- Our technicians were cramped in this small, ergonomically challenged area for many years.
- After many observations, discussions and some help from our engineering team we were able to improve that area.
- The platform above was raised to avoid head contact and rollers are now used to move the 20# carboys as the technicians fill and move up to 100 per day.

Ladder Access Hatch Replacement

Before



After

All of our hatches were homemade, difficult to open/close, and installed many years ago. They did not meet the design specifications and needed to be replaced. During a review of these hatches, we also found that the guard railing, bang bars, and ladders were in need of attention as well. Cargill maintenance, operations, and safety employees collaborated with contractors to make the appropriate changes. New guard railing, swing gates, ladder cages, and hatches were installed. The safety yellow paint really finishes the whole thing off.

DTZ Safety Loft Access

BEFORE

Access to the DTZ Safety Loft was limited to one stairway, which was an evacuation hazard. In addition, the area outside of the building was cluttered with scrap and abandoned fuel tanks.

AFTER

DTZ and Cargill worked together to design a new stairwell access to the Safety Loft. The area outside of the building was cleaned up and fuel tanks were repositioned. This improved appearance and raised employee morale.

BEFORE

DTZ Shop was cluttered with parts and tools which limited the safety and efficiency of employees.

AFTER

Old wooden cabinets were eliminate, storage for parts and tools was improved making a much safer work area.

Multiple Space heaters throughout the City of Mason City were found to be a potential fire hazard. We implemented a policy that included the proper location, weekly inspections and plugging directly into a outlet. No heaters with coils or fuel oils are allowed. Ceramic and radiator type are the only ones acceptable with the UL symbol; they must turn off when tipped. Each heater must have an owners manual and that manual must be followed. Inspection sheets are turned in monthly to the safety department. The City electrician is involved in making sure the circuits can handle the loading. All heaters are to be turned off when unattended during business hours and unplugged at the end of each working day.

After

The Maintenance Department had to rebuild a set of fixed stairs in the Fermentation building. The stairs were originally built in a manner that was not uniform, which created a fall hazard to personnel using them.

Before

After

A sodium hydroxide unloading pump (caustic) pump was guarded with a containment curb and chemical curtain to protect personnel in the area in the event of a leak.

Before

After

A door way that led to an immediate fall hazard on the 3rd floor of Refinery was barricaded. The doorway was installed during construction and has a drop off to the first floor on the other side of it. The doors remain locked as well.

Before

After

Guarding around the packaging palletizer has been reconfigured so that personnel can replace the shrink wrap on the palletizer without exposing themselves to moving equipment hazards.

Before

After

Gaps that were adjacent to the railroad tracks were reduced. The gaps were fall/trip hazards to personnel in the area, and no longer pose a hazard. Before, the gaps were up to seven inches in diameter. They are now no more than a few inches.

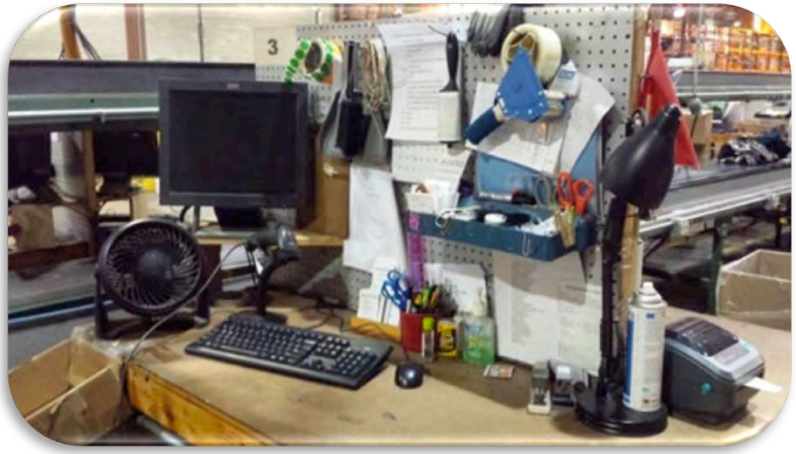
Before

After

Workstation Improvements

Clinton Returns went through an ergonomic process improvement by adding adjustable height tables, ergonomically designed equipment locations, and monitor arms for all 16 processor workstations. Also these workstations were given shadow boards to ensure tools and equipment are always placed in the correct location, eliminating previous housekeeping concerns.

Before



After

Returns Improvements

Before

After

Clinton Returns added a cardboard waste conveyor that removed 14 cardboard storage boxes taking up 224 sq. feet. Returns also added gravity skate track, totes, and automated conveyors to decrease material handling, repetitive lifting, and general clutter throughout the returns process.

Ergonomic Improvements

Colony Brands Clinton facility also purchased five new lift tables for the returns area where the heavyweight returns and parts employees work. This project will limit the distance of lifts, bring product to the height of the employee, and help reduce the potential for sprains and strains in this area. The products in this area often exceed 50 pounds, are frequently awkward sizes, and require a two-person lift.

Lighting Improvements

Clinton Returns completed a lighting project that allowed for an additional 10 foot-candles of light throughout the returns area. This was done by replacing our current fixtures with T-8 fluorescent fixtures with sensors. This additional lighting will decrease the potential for slips, trips, and falls in the returns area.

Commitment To Zero Program

COMMITMENT TO ZERO

ZERO ACCIDENT PROGRAM

The Clinton facility engages in several safety activities each month based on safety knowledge and facility-specific safety concerns. Employees are rewarded for answering safety questions, submitting facility hazard identification cards, participating in all 52 safety talks, and maintaining 100% participation. Monthly an employee with the highest score is given the title of “Safe Employee of the Month. ” This employee is given a facility safety t-shirt, an upfront parking spot, a trip to the company safety committee meeting, a recognition posting, and company cash. The program has 100% participation and is aligned with the company’s Commitment to Zero Program.

Upper die collar

Before: Collar on upper die could be installed 90 degrees from the correct orientation. When this happened it prevented the upper die from being tightened or clamped correctly to the press. When not installed correctly the die could fall.

After: Collars were modified to permanently mount to the press to prevent incorrect installation. Standard work was created for press set up and operation.

No Parking signs

Before: Employees were parking personal vehicles in trailer parking area causing potential collision hazards for the Spotter truck turning corners and parking trailers.

After: Installed no parking signs in trailer parking area so the employees and visitors are aware that personal vehicles may not be parked in that area.

Scissor lift Policy

Before: Employees walking through areas where scissor lift is raised. Possible hazard of items being dropped onto people below.

After: Implemented new work practice

- Maintenance notifies supervisor of overhead work
- Supervisor authorizes overhead work and clears people from area
- Operators are required to stay at least 10 feet away from raised scissor lift
- Maintenance required to put up a safety barricade or "closed" sign to alert people that they may not walk through

Cold assembly parts

Before: Plastic hoses were being stored on a trailer and were cold when brought to operators. Risk of strain from assembling brittle plastic hose onto air cleaner.

After: Process implemented to bring hoses to room temperature prior to being brought to the line. A fixture was also created to hold the air cleaner in place while installing the hose.

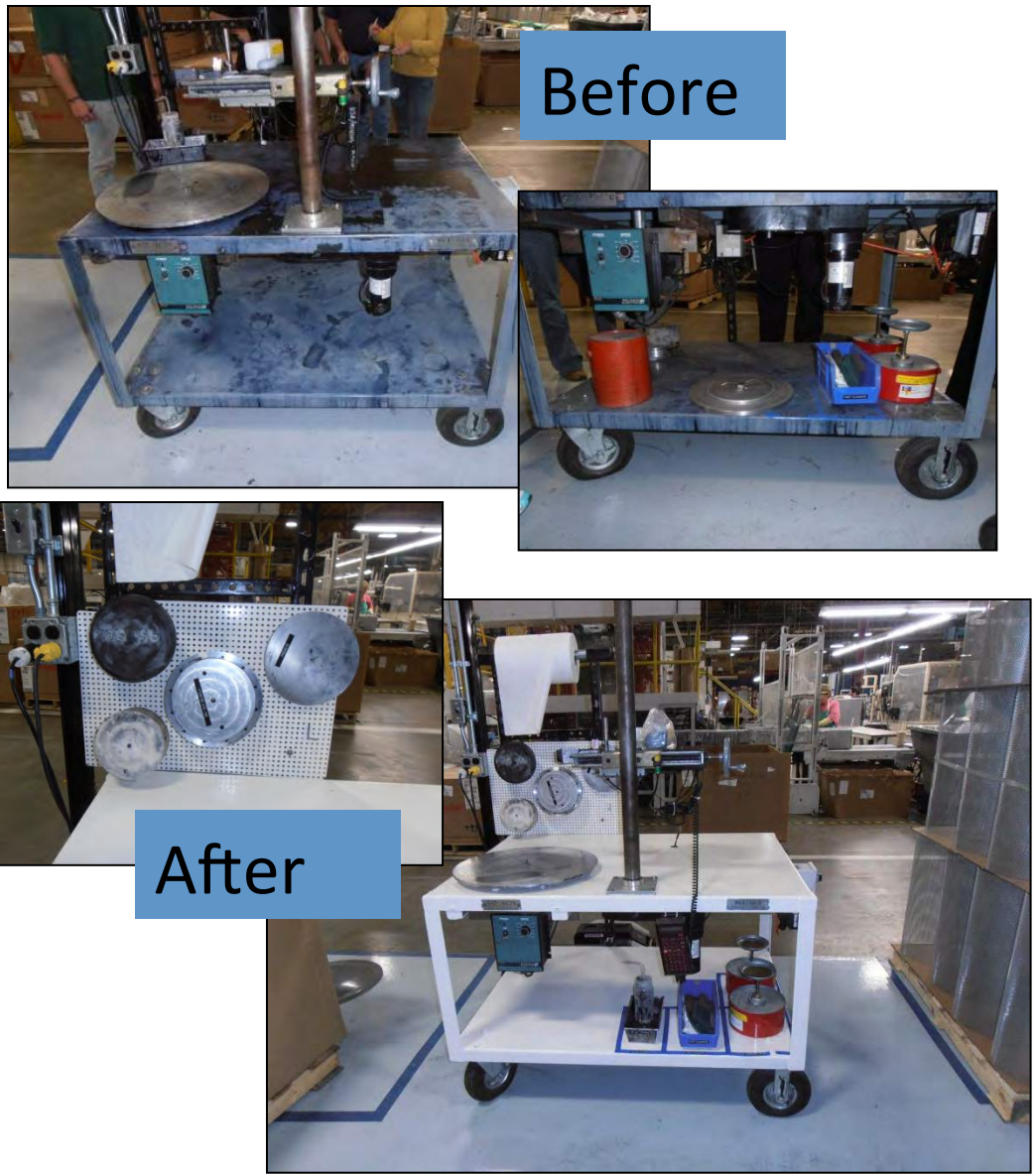
Longer sleeves

Before: Employees working with sharp metal wore sleeves that exposed elbow resulting in possible lacerations if they bumped up against metal.

After: Longer PPE sleeves were purchased to protect employee's elbows and arms.

1. Inkjet Ergonomics/6S

- Inkjetter area not clearly arrange to accommodate the process and be visual
- Disks and tools arranged so bending and lifting was required
- Installed a board for disks and tooling to eliminate bending and painted white for better visibility



2. Flammable Cabinets

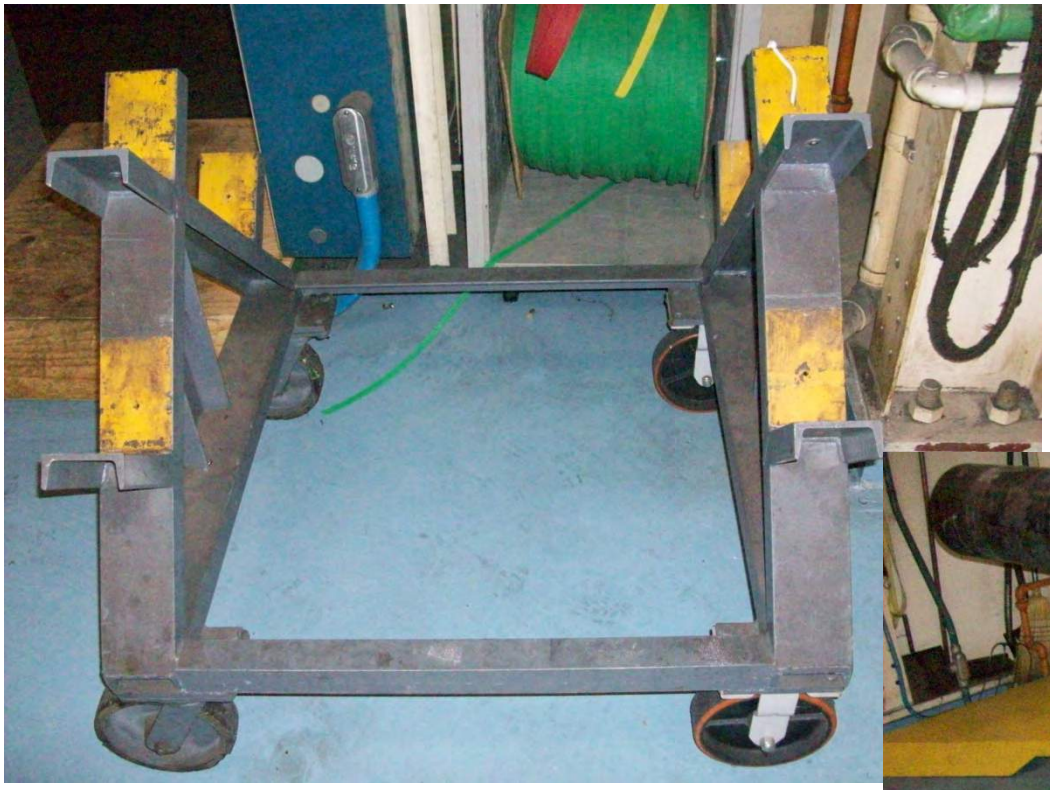
- Before: Identified employees were storing flammable aerosols and liquids in small quantities on the line.

- After: Purchased and implemented flammable storage cabinets for flammable liquid storage.

3. Winter Parking

- Multiple incidents with trucks delivering product blocking the walkways for employees and visitors; resulting in an OSHA recordable incident
- With trucks blocking walkway people had to go around truck into potential slick or icy areas
- Put stripping on pavement to identify walkways letting truck know that they could not block the area

Rotor Carts



Before: Carts had a short V cradle. Over 60 % of a large rotor shafts extended above the cradle.

After: New heavier weight carts with longer V cradles that would not allow rotor shaft to roll out.

Lathe Entrance

Before: Entrance into large CNC Lathe was made using 2 one step wooden steps because operating pendent was used at floor level. Steps would be moved to where the operator wanted to enter the machine.

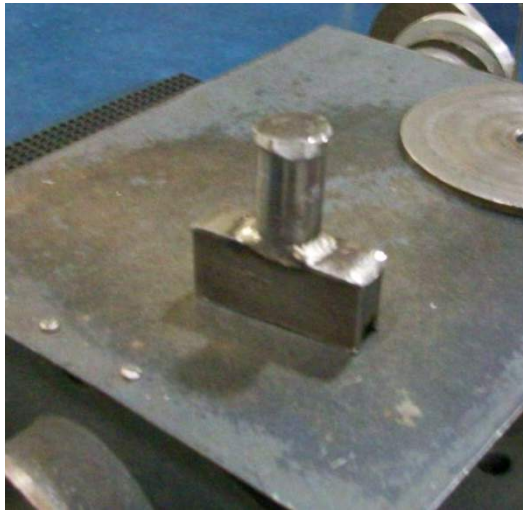
After: New steel platform was installed the length of the lathe and covered with a fatigue mat with safety stripe. Pendent was made adjustable to allow the unit to be controlled from the higher platform.

Step Trip Hazard

Before: Portable steps used to access platforms and bases used in product assembly was made of rotationally molded plastic. Each unit had 4 button feet that constantly wore off allowing the step to move as the employee went up the steps or worked off the step. Grit surface also wore allowing employee to slip.

After: New steel step system with a toothed Waffle surface and larger rubber covered adjustable steel feet makes use safer for employees to use for access to platforms or to work from.

Punch Tool Handles



Before: Handles over the years had been allowed to shorten as a result of use and grinding to remove mushroomed material. The shorter handles did not encourage employees to properly hold putting them at risk of injury if the hammer missed the handle and hit the employee.

After: New tool handles were designed to provide both a longer handle for better grip and protection for the employees hand when the punch is struck by a hammer. Employees also report the new design has made the work easier since the punch has less tendency to bounce when struck.

Glove board

Before: Employees were provided information on proper gloves to use in JSEAs and Hazard Risk Assessments using such terms as cut, chemical, or abrasion resistant. The employee would then obtain the glove from a bin in the stores area

After: A glove board was developed showing a picture of the current gloves maintained in stock and a brief description of the gloves properties and use. The employee can now ensure the select the proper glove for the operation they will be doing based on a knowledge of the gloves properties.

Other

The proceeding are just a few of the over 109 safety hazards identified and formally investigated during 2014 and over 750 other safety and quality process improvements were completed during the year.

During 2014, Dresser-Rand Burlington Steam Turbines site continued certification to OHSAS 18001 as part of the Dresser-Rand Corporate certification. The site continued to emphasis Hazard Identification and Risk Assessments for all areas for standard work and the use of JSEAs for work outside of normal operations. All employees were trained in HIRA technique and they preformed the HIRA and JSEA assessments. We also require all contractors to submit and review a JSEA prior to working on site.

Organization:Dresser-Rand Steam Turbine
Contact: Carl Vass
Contact Phone; 319-753-4035
Contact E-Mail: Cvass@Dresser-Rand.com
Mailing Address; 3800 West Ave, Burlington, IA 52601

Certified when receive Working Knowledge Evaluation

Employee:	*Print*	*Sign*
Hands-On Trainer:	*Print*	*Sign*
_____ Date Performed	Note: Employee must demonstrate all required skills in a safe and proficient manner Employee must receive Basic Knowledge Evaluation & 90% or better on written test to be retained	

Training Matrix Criteria:			
New Contract Workers *(Have not worked at Renwick Production Plant Before)* *Initial Evaluation* Authorized to operate forklift when receive Basic Knowledge Evaluation Certified when receive Working Knowledge Evaluation	Basic : Yes Evaluations on Questions 1-26 *Re-Evaluation - 30 days after hire to verify competency and to evaluate for Working Knowledge Certification.(WKC). WKC not necessary for retention.* Working : Yes Evaluations on Questions 1-29	Yes ☐ Yes ☐	No ☐ No ☐

Problem (before improvement):

- We had incurred powered industrial truck (PIT) property damage and near miss incidents that all had a root cause of operator error or driver inattention.
- 38 of the 46 property damage incidents in 2012 were involved temporary agency workers
- These incidents had the potential for serious injury to occur

Improvement:

- Completely redesigned PIT training and on-boarding schedule in 2013 which was expanded to 6 days with 5 days dedicated to hands-on fork lift training.
- 21 fewer incidents than the prior year
- Again enhanced hands-on PIT training in 2014 using only dedicated trainers and reevaluated operator skills after 30 days (Attached training checklist)
- 22 fewer incidents that in 2013
- The majority of incidents now involve full time/part time regulars who have not gone through the hands-on training rather than involving temporary agency workers
- Scheduling hands-on-training for all FT/PTR operators in 2015

Benefits:

- Increased safety! Renwick Production Plant has worked over 3 years with no recordables
- Increased production due to less product loss or transactional errors
- Shift fork lift operator skill consistency enabling better planning

Renwick Production Plant Forklift Skills Checklist

Employee:	*Print*	*Sign*
Hands-On Trainer:	*Print*	*Sign*
_____ Date Performed	Note: Employee must demonstrate all required skills in a safe and proficient manner Employee must receive Basic Knowledge Evaluation & 90% or better on written test to be retained	

Training Matrix Criteria: ***New Agency Workers*** ***(Have not worked at Renwick Production Plant Before)*** ***Initial Evaluation*** Authorized to operate forklift when receive Basic Knowledge Evaluation Certified when receive Working Knowledge Evaluation	Basic : Yes Evaluations on Questions 1-26 ***Re-Evaluation** - 30 days after hire to verify competency and to evaluate for Working Knowledge Certification.(WKC). WKC not necessary for retention.* Working : Yes Evaluations on Questions 1-29	Yes ☐ Yes ☐	No ☐ No ☐
Return Agency Workers ***Initial Evaluation*** Authorized to operate forklift when receive Basic Knowledge Evaluation Certified when receive Working Knowledge Evaluation **Note: Eligible to demonstrate driving ability by going through this checklist on Wednesday afternoon,** **The candidate's skills will be evaluated & determination made if candidate will continue on at Renwick by Hands-On-Trainer & Warehouse Supervisor on Wednesday afternoon.** **Note: If candidate is unsuccessful at this time, will continue with Renwick's On-Boarding process and will be reevaluated the following Monday afternoon for retention.determination.**	Basic : Yes Evaluations on Questions 1-26 ***Re-Evaluation** - 30 days after hire to verify competency and to evaluate for Working Knowledge Certification.(WKC). WKC not necessary for retention.* Working : Yes Evaluations on Questions 1-29	Yes ☐ Yes ☐	No ☐ No ☐
Full Time/Part Time DuPont Pioneer Employees ***Initial Evaluation*** Authorized to operate forklift when receive Basic Knowledge Evaluation	Basic : Yes Evaluations on Questions 1-26	Yes ☐	No ☐

Prepared by: C. Jones
Approved by: B. Woeste
Revision: 00

Renwick Production Plant Forklift Skills Checklist

Certified when receive Working Knowledge Evaluation **Note: Dependent upon job scope whether participates in fork lift training. If will need to operate fork lift to fulfill job duties, then attends week of training.**	***Re-Evaluation – 30 days after hire to verify competency and to evaluate for Working Knowledge Certification.(WKC).*** **Working : Yes Evaluations on Questions 1-29**	**Yes** ☐	**No** ☐

1.	Yes ☐	No ☐	Performs forklift inspection
2.	Yes ☐	No ☐	Wears seat belt
3.	Yes ☐	No ☐	Demonstrate function of all controls and settings
4.	Yes ☐	No ☐	Demonstrate how to park fork truck and proper way to dismount: FISH Technique F = Forks lowered I = Ignition turned off S = Set gear to neutral H = Hand brake engaged To Dismount: Look in front and behind the truck Unbuckle your seatbelt Stand and turn sideways, facing the truck Maintain three points of body contact Dismount the truck slowly
5.	Yes ☐	No ☐	Looks where he or she is going
6.	Yes ☐	No ☐	Drive at a constant speed and stop at a determined location while staying under control (forward and backward)
7.	Yes ☐	No ☐	Obeys plant traffic rules – • All East/West traffic in the warehouse has the Right of Way (East/West direction would be if you were traveling from one end of a specific warehouse to another, staying in that same warehouse) • North/South traffic must slowdown and honk at each intersection, yielding to East/West traffic. (North/South direction would be if you were traveling from one warehouse to another through the connecting links) • If you miss the arrow to activate the buzzer when traveling East/West, slowdown and honk before proceeding.
8.	Yes ☐	No ☐	Starts and stops smoothly
9.	Yes ☐	No ☐	Corners properly

Prepared by: C. Jones
Approved by: B. Woeste
Revision: 00

10.	Yes ☐	No ☐		Removes any obstacles
11.	Yes ☐	No ☐		STOP (The fork truck must be at a full stop before mast is raised or lowered)- DROP - **CHECK** THEN ROLL: Demonstrate picking up a load 1. Approach the load slowly and squarely 2. Stop with the fork tips about a foot from the load 3. Level and adjust the fork height 4. Move forward slowly 5. Lift the load just high enough to clear obstructions 6. Tilt back the load 7. Proceed
12.	Yes ☐	No ☐		STOP (The fork truck must be at a full stop before mast is raised or lowered)- DROP - **CHECK** THEN ROLL: Demonstrate putting away a load 1. Approach the storage location straight on 2. Stop with the fork tips about a foot from the location 3. Raise or lower the load 4. Level the forks 5. Move forward slowly 6. Stop when load is above desired location 7. Lower the forks 8. Proceed
13.	Yes ☐	No ☐		Maneuver successfully through cone course with and without a load. Loads shall consist of: 1. Empty ProBox 2. Full ProBox 3. Pallets **The degree and extent of this skill to be demonstrated will be determined by the Hands-On Trainer. Candidate must be able to verbally describe how the forklift reacts differently to moving an empty ProBox compared to a full ProBox.** Substitution for cone course would be: • Pulling 3 ProBoxes down from 9 high stacks • In areas that are stacked 9 out and 4 high, demonstrate stacking and unstacking from center bays successfully (referred to as pulling from a tunnel) **The degree and extent of this skill to be demonstrated will be determined by the Hands-On Trainer.**
14.	Yes ☐	No ☐		Demonstrate proper travel height of forks with and without a load (Note: tilt forks up slightly when traveling without a load)

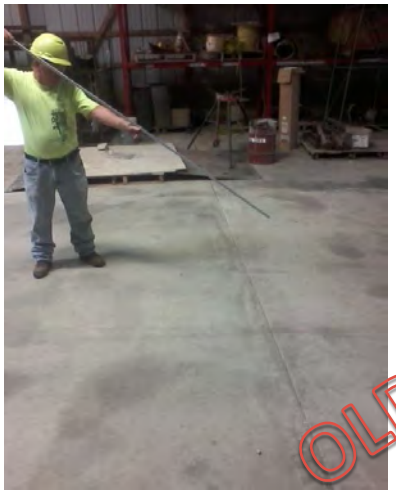
Prepared by: C. Jones
Approved by: B. Woeste
Revision: 00

15.	Yes ☐	No ☐		Drive unit around a corner ensuring appropriate horn usage, (empty and full)
16.	Yes ☐	No ☐		Drive the fork truck up and down an aisle ensuring appropriate horn usage, (empty and full)
17.	Yes ☐	No ☐		Carries load properly
18.	Yes ☐	No ☐		Sounds horn at blind corners and stops, if appropriate
19.	Yes ☐	No ☐		Slows down at corners or intersections
20.	Yes ☐	No ☐		Travels in reverse, if appropriate
21.	Yes ☐	No ☐		Demonstrate how to change LP tank and explain the required PPE
22.	Yes ☐	No ☐		Slows down on wet or slippery floors
23.	Yes ☐	No ☐		Evaluate driver's ability to stack and unstack empty ProBoxes • No more than two un-nested or three nested boxes shall be moved/handled at a time • Stack un-nested empty ProBox a maximum of four high • Stack nested empty PROBOX ® a maximum of 9 high for warehouse storage • When stacking nested PROBOX ®, no more than 3 boxes shall be lifted straight up at a time • **Candidate must be able to verbally tell instructor difference between picking up four nested boxes compared to three nested boxes**
24.	Yes ☐	No ☐		Evaluate driver's ability to stack and unstack full ProBox • Full ProBox shall only be moved one at a time and the weight limit of the fork truck shall not be exceeded • Full ProBoxes shall be stacked a maximum of four high
25.	Yes ☐	No ☐		Evaluate driver's housekeeping Note: As per policy, constant effort to maintain the workplace in order by sorting out unwanted material, assigning a place for everything, keeping everything in its place and keeping the workplace neat and clean at all the times.
26.	Yes ☐	No ☐		Evaluate driver's ability to stack and unstack empty pallets Within the warehouse or when loading a truck, no more than 20 empty pallets shall be moved at a time

27.	Yes ☐	No ☐		Demonstrate WMS competency: Obtain username/password thru Plant Administrator (required before using WMS) • Shipping ❖ Press **F1** to go to the Selection Screen ❖ Select **2** for Picking ❖ Press **1** for Pick by Delivery ❖ Scan the **barcode** delivery number on the pooling sheet. ❖ Scanning the barcode takes you to the Line Item Screen. ❖ Page **Up** or **Down** to the item that you want to select. ❖ Select the desired line and press **Enter**. ❖ The screen will show the quantity and the location of product (If batch specific, the screen will show this information as well) • Packaging – ProBox & Jumbo fill put away ❖ Press **F1** then type in 1 – Receiving & then press Enter ❖ Select **4** - Put away and press Enter ❖ Scan barcode on ProBox or Jumbo ❖ Location barcode on put away forklift must be scanned twice. Scan it once and check the computer screen to make sure it scanned it into the proper location. If it did then scan the barcode again. ❖ Put ProBox or Jumbo away.
28.	Yes ☐	No ☐		Evaluate driver's ability to transport and stack jumbos • Full jumbo bags shall be held close to the mast as possible with the mast slightly tilted backwards to maintain stability • Jumbo bags shall only be carried one at a time • Large jumbo bags that obstruct the forward view of the operator must be carried in reverse and strapped to the backrest of the forklift. • Maximum of two straight up; under no circumstance should straight up stacking be higher than two; Stacking straight-up should be done in rows of two wide side-by-side; under no circumstance can the jumbo be stacked more than three high. • Jumbos shall be only be singles in pooling lanes, no stacking of any kind Pyramiding is allowed in 2 row pooling lanes
29.	Yes ☐	No ☐		Evaluate driver's ability to move and stack bagged seed pallets Note: Bulldozing of pallets, PROBOX ® or any other material is not allowed. • Shall only be moved one pallet at a time or two with 30 unit pallets and the weight limit of the fork truck shall not be exceeded Loads shall be carried in reverse whenever possible


SAFETY
I'M
RESPONSIBLE!

Safer use of Pressure Washer



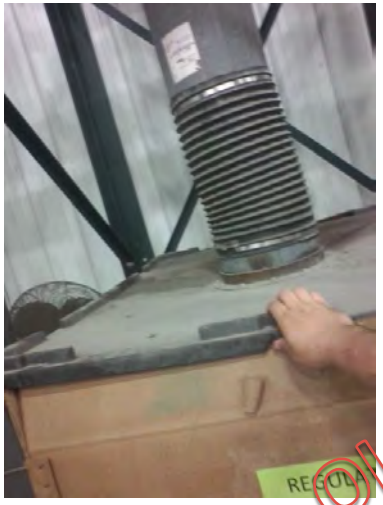
Ergonomic Improvement

Problem (before improvement):	**After Improvement:**
• Awkward pressure washer wand was too long to operate comfortably in close quarters or on small objects. This was an implemented best practice.	• Utilizing a shorter pressure washer wand and placing safety notes in the written work instructions on avoiding contact with potential damaging spray allows operators to work in close quarters and to work on small objects without awkward body posture.

Benefits: Enables staff to easily clean objects of any size with the pressure washer without having an awkward body posture.

Area of Improvement: Plant wide (Alfalfa, Commercial Soybeans, Corn, Parent Soybeans and Wheat).

Safer access to Soybean ProBox Lid Clips



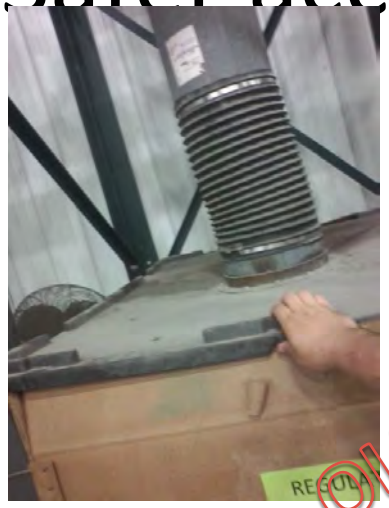
Ergonomic Improvement

Problem (before improvement):	**After Improvement:**
• Awkward ProBox lid clip insertion required a great deal of finger/digit force from an awkward angle.	• Adding a portable stair with handrail and rubber mallets employees can now reach ProBox lid clips easier from above the clips (preferred as opposed to accessing from below) and can insert lid clips with a rubber mallet attached to the portable stair, eliminating the need for excessive digital force.

Benefits: Enables staff to access and insert ProBox lid clips with less force from a better body posture and gives better access to the ProBox itself through a better vantage point/height.

Area of Improvement: Soybean Production Area.

Safer access to Soybean Dust Discard



Ergonomic Improvement

Problem (before improvement):	**After Improvement:**
• Awkward ProBox lid on top of soybean dust discard made accessing the discard bin/box cumbersome.	• Adding a pulley and handle made accessing the discard bin/box much easier and quicker

Benefits: Enables staff to access the discard bin with less force from a better body posture and gives better access to the bin itself through a better opening.

Area of Improvement: Soybean Production Area.

Safer button alternative for Soybean Small Lot Line

OLD

Ergonomic Improvement

NEW

Problem (before improvement):	**After Improvement:**
• Hard to press "START" and "STOP" buttons on Small Lot Line V trough conveyor required 12-26 pounds of force to operate, resulting in an employee finger injury.	• New buttons were installed that require only a fraction of the force to operate, lessening worker digit fatigue and the chances of future injuries.

Benefits: Enables staff to more comfortably operate V trough while working in the area and not worry about potential injury.

Area of Improvement: Small Lot Soybean packaging area.

Safer access to Talc bag

OLD

Safety Improvement

NEW

Problem (before improvement):	**After Improvement:**
• Opening talc bag with your fingers directly below a full bag of talc and above a metal frame.	• Maintenance fabricated and installed a bracket that will catch a talc bag and prevent pinching in the event of a bag or bag strap failure.

Benefits: Safer working conditions.

Area of Improvement: Soybean production area.

Garage Door Openers for Forklifts

Problem Statement:

When going in/out of the warehouse the forklift driver had to get off the forklift to open/close the overhead door.

Action Taken:

Added garage door openers to forklifts which eliminates the need to step off the forklift.

Results:

This addresses:

- An ergonomic concern (entering/exiting the forklift)
- Safety increases (reduction in slip, trip, and fall opportunities)
- Time management is enhanced (saving a few seconds each run will add up)
- Considering openers for other overhead door areas also

Before

After

ESCO has implemented policy to require employees to utilize Greenlee cable feeding equipment for performing large wire pulls. In the past employees have had to use excessive force to pull the cable off of the reels, this was very straining and dangerous for soft tissue injuries.

ESCO Group has purchased safety foot switches for use during cable installations. Employees must engage footswitch on both ends of the cable pull for the cable puller to engage. This prevents miscommunication and lowers the risk of cable pull related injuries due to lack of communication

Fisher Controls

Reducing hazards through promoting safer work environments

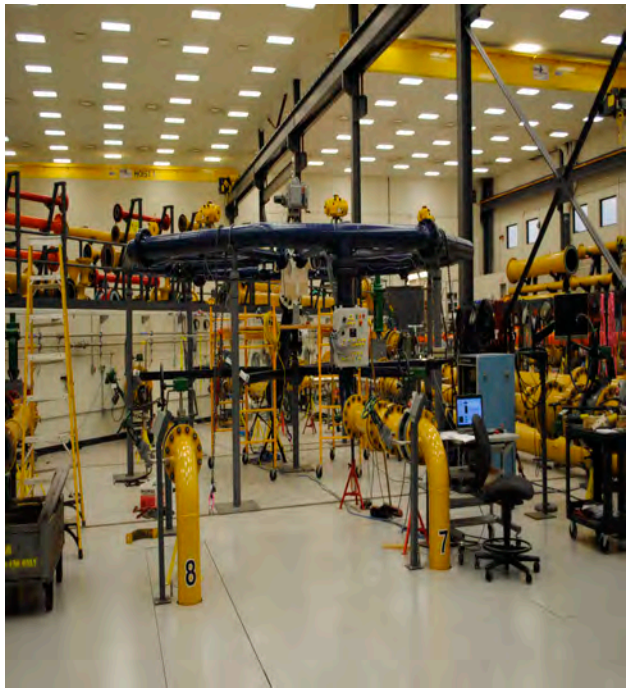
Organization: Fisher Control **Contact**: Eric Thompson **Phone**: 515-745-9475 **Email**: eric.Thompson@emerson.com **Address**: 301 South 1st Ave, Marshalltown, Iowa 50158

Office Ergonomics Work stations without ergonomic improvements causing minor discomfort and put employees at risk for future musculoskeletal disorders.

Individual work station evaluations offered to all employees and an array of ergonomic items provided to them depending on the individuals daily tasks. To date, approximately 100 employees have taken advantage of the program and helped create a safer work environment!

Organization: Fisher Control **Contact**: Eric Thompson **Phone**: 515-745-9475 **Email**: eric.Thompson@emerson.com **Address**: 301 South 1st Ave, Marshalltown, Iowa 50158

Technicians making modifications to and performing tests on elevated piping configurations. Due to the unique design, scissors lifts were unable to be used which limited options to ladders and scaffolding, creating hazardous conditions for technicians.



- A fixed walking/working platform was installed, including guardrails for fall prevention and a ladder for safe entry and exit. The platform was designed and constructed so it can be disassembled and moved with the assembly after testing is complete and it moves into the field for regular operation.

Organization: Fisher Control **Contact**: Eric Thompson **Phone**: 515-745-9475 **Email**: eric.Thompson@emerson.com **Address**: 301 South 1st Ave, Marshalltown, Iowa 50158

Flint Hills Resources Bettendorf Iowa

FHR Identified a potential hand injury risk when opening roller gate. The topside rollers were identified to present a dangerous pinch point risk for persons attempting to open or close the gates.

Gate roller assemble with Guard

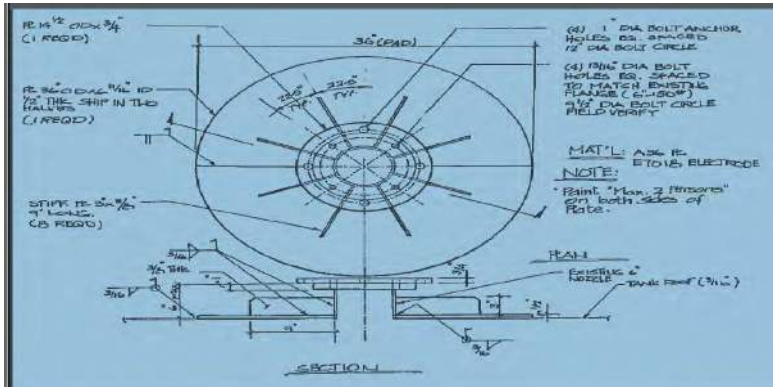
Gate roller assemble pinch point

As a pro-active measure the roller guards were installed to mitigate / eliminate the pinch points on three gates each with 2 rollers. These roller guards will not allow the hand or fingers to enter the area were the gate frame contacts the roller assembly.

Flint Hills Resources Davenport Iowa

An initiative to assess and improve the fall protection at our Davenport terminal was completed in 2014. The terminal tanks and building roof tops were areas without engineered tie points. The picture below is 1 of 3 engineered tie points added to allow safe access to our tank roofs

Engineered tie point on Tank #5



Engineered roof top anchor / cable system

The above pictures are of the engineered roof top anchor / cable system (1 of 2) that now allows for a safe work area on the roof top of our office and shop building.

Flint Hills Resources Algona Iowa

The terminal has identified some old equipment that lack the appropriate machine guarding per current standards. The challenge with this is finding manufactured guards for this equipment.

With no manufacturers producing guarding for this equipment our operators took on the challenge to design and produce guarding in-house. Now we are able to safely utilize existing equipment.

Flint Hills Resources Dubuque Iowa

Employees utilized a road constructed on top of a berm to access the asphalt tank farm. This berm over time showed signs of wear and created a potential roll over hazard. The employees decided instead of repairing the road they would move the berm to the south and construct a new road to the north side of the berm.

New Tank Farm Access

Tank Farm Access Over Berm

The access route to the asphalt tank farm was relocated to ground level eliminating any potential roll over hazard. This was a great demonstration by the Dubuque Terminal Employees of engineering out a hazard.

Flint Hills Resources Dubuque Iowa

Employees at the Dubuque terminal identified some potential risks on top of the asphalt tanks. Potential risks identified were uneven surfaces when on top of the tanks, tank roofs become slippery in wet or icy conditions and railings did not provide 360 degree protection.

Old Tank Roof Platform

New Tank Roof Platform

Tank roof platforms were engineered and installed on several asphalt tanks to provide safe access to tank roofs. These platforms provide employees an even non-slip surface with 360 degree protection to perform tank gauging and maintenance.

Growmark

17 Locations

Vehicle Impact Protection

Before

An internal audit determined the need for impact protection from truck traffic at the terminal. Affected areas included fuel dispensing tanks and electrical service boxes at various locations on the property.

After

Internal audit program determined the need for an effective Hazard Assessment Program at GROWMARK, Inc. facilities.

Photo of hazard may be inserted here


GROWMARK

HAZARD ASSESSMENT PROGRAM

(NAME OF COMPANY/FACILITY)

(ADDRESS)

EFFECTIVE DATE: (ENTER)

There were 4 main components to the program:

1. A program template that could be customized for each location.
2. A initial Hazard Assessment matrix
3. Hazard control forms that detailed how identified hazards would be eliminated or controlled to prevent employee exposure
4. A Personal Protective Equipment matrix to detail required PPE for specific tasks at each location.

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2015 IISC Hazard Recognition Award Application
Hagie Manufacturing

Hagie Manufacturing is no different than many other manufacturing facilities across the U.S.

One of our inherent safety issues is forklift traffic throughout the buildings, many blind corners and blind entrances into the forklift passageways.

And many employees that have become accustomed to the sound of forklifts in operation.

As human beings work continuously around forklifts, they become oblivious to the warning sounds of the forklift. Their brain blocks out the sound of the motor or the sound of the horn or backup alarm.

Your brain can block out sounds but it can't block out visualization. So, we decided to visualize our forklifts.

We installed the FIREFLY collision avoidance system on our forklifts. The Firefly system consists of two very high intensity blue lights. One pointing to the floor approximately 20 feet in front of the forklift and the other 20 feet behind. The lights are wired so when the forklift key is on, the lights are on, you cannot operate the truck without the lights on.

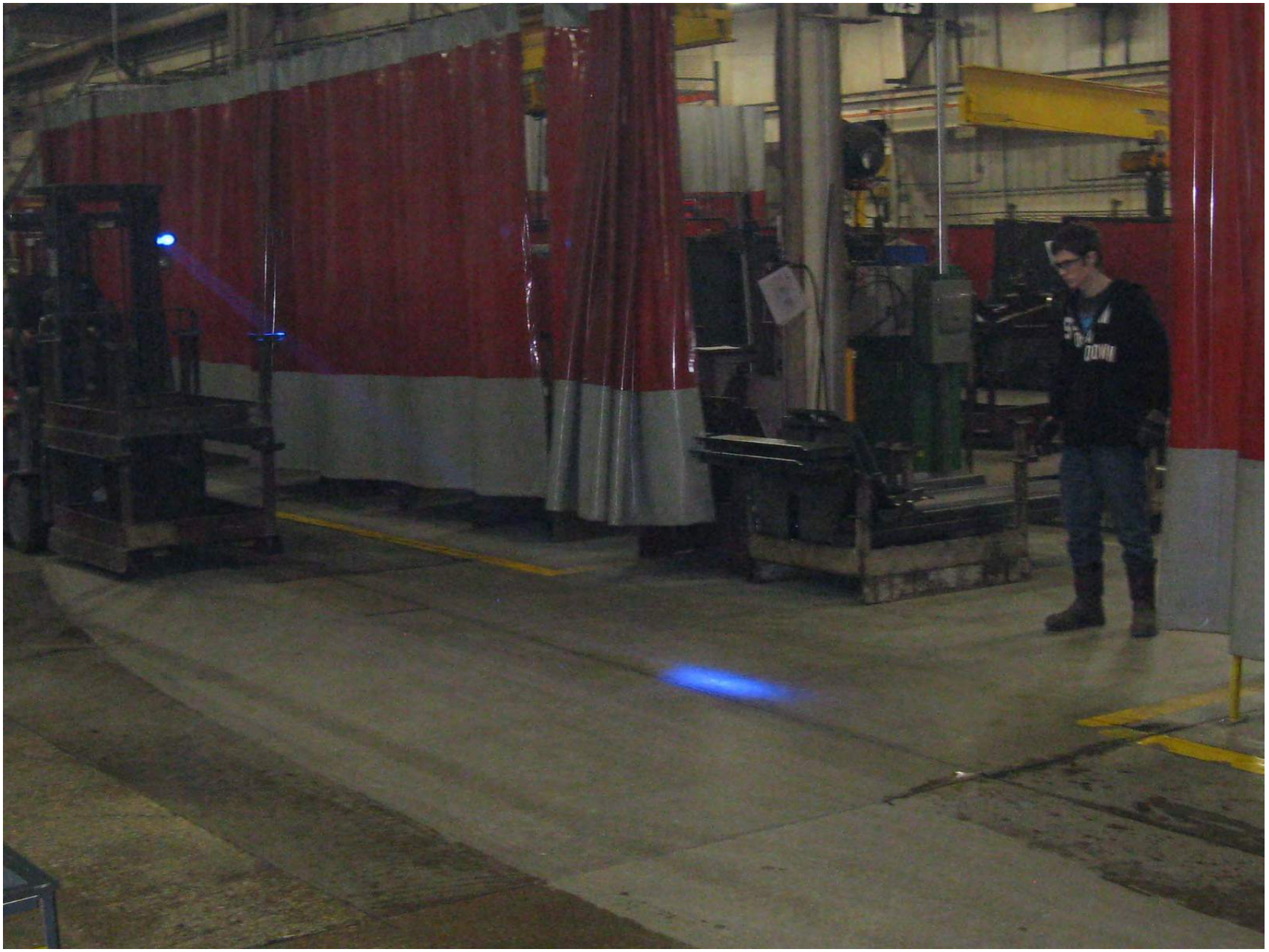
The Firefly system has decreased our near miss reports by 90%

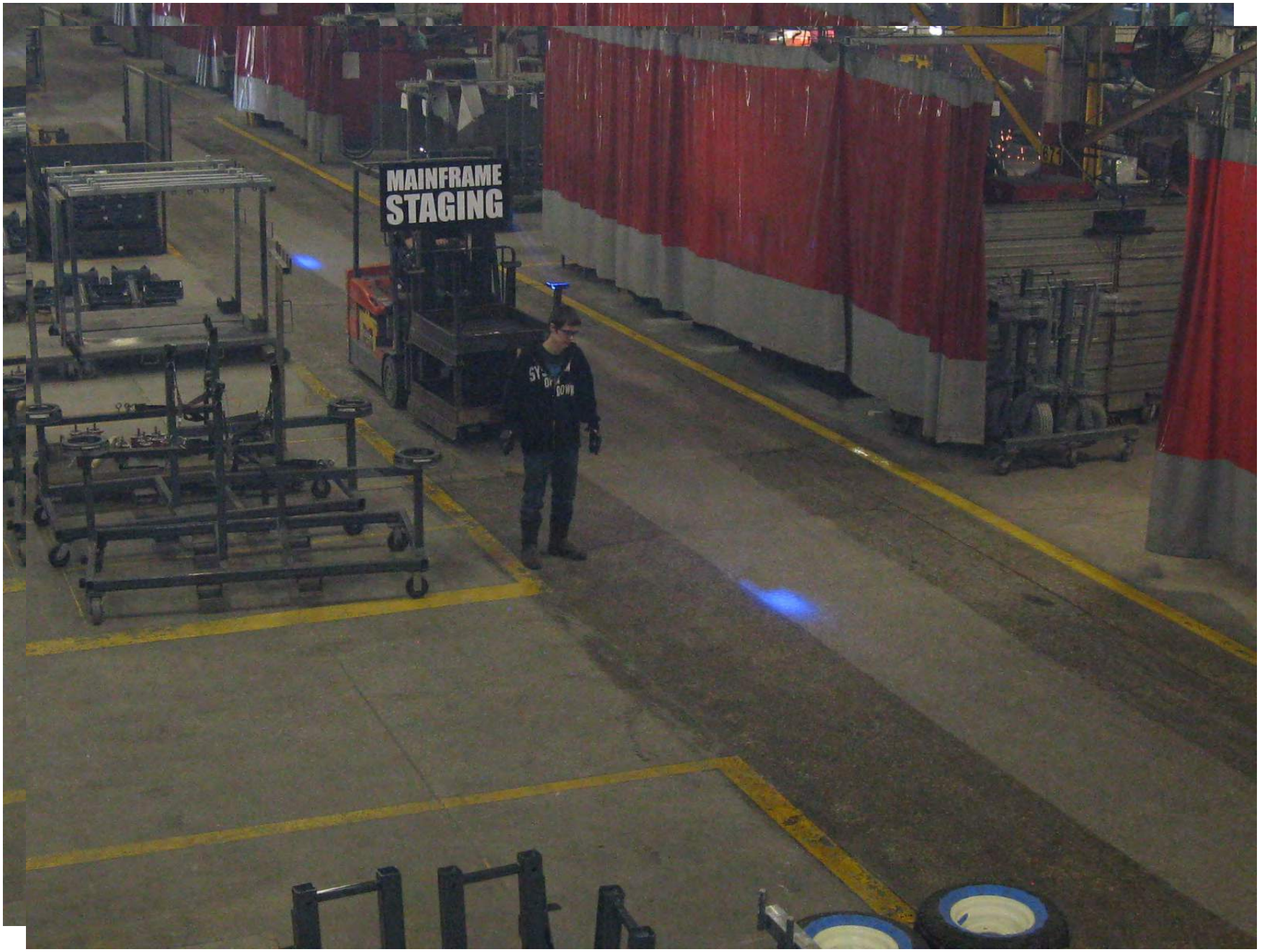
All we hear is how great the system works, giving people that early warning before they step into an aisle.

Rarely do you find something that has an immediate effect on your safety and continues to work day after day.

This is a great system and would recommend to anyone.


WELD
629




MAINFRAME
STAGING

Heska Corporation

Before

- Hoist Lift/Trolley –

A mechanical hoist (approx. 35 lbs.) was manually lifted above head height by employee and attached to an eye-hook on an I-beam to remove lid from a production tank. Once the lid was removed, the hoist had to be taken back down to allow fall protection equipment to be attached to the I-beam.

After

- Purchased and installed a trolley that is attached to the I-beam that enables the mechanical hoist to be fastened to the trolley and then you can slide the trolley out of the way when not being used to allow room for fall protection equipment. Eliminated lifting injuries caused by hoist being installed and removed.

The approaches/ramps to our scales had reflective posts on them to help guide the truck drivers onto the scales but often time employees would jump up on the ramps, instead of walking around, when crossing. This creates a hazard because the driver's are concentrating on making it safely onto the scale and it is also an incline of about 2 feet.

Before:

We installed yellow safety chain that eliminates the possibility of an employee cutting across the ramps. They now must walk around the ramps to get to the other side. Therefore, driver's can see the employees better and the risk of falling or tripping on the ramp has been eliminated.

After:

Homeland Energy Solutions, Llc./Kyle Guertin/kguertin@etoh.us/563-238-5555/2779 Hwy 24 Lawler, IA 52154

Before:

The chemicals in the two blue barrels are incompatible with one another and would react violently if spilled or inadvertently mixed.

After:

A stub wall was constructed in between the two chemicals to keep them separate in the event of a spill.

Homeland Energy Solutions, Llc./Kyle Guertin/kguertin@etoh.us/563-238-5555/2779 Hwy 24 Lawler, IA 52154

Our corn oil load out is an aerial/top load set up. When our operators load out at night, they have difficulty seeing inside the tanker to check fill level. (Light is in process of being installed in this picture)

Before:

The light mounted on top of the load out platform will provide an elevated light source to help the employee see inside the tanker to verify level of product.

After:

Homeland Energy Solutions, Llc./Kyle Guertin/kguertin@etoh.us/563-238-5555/2779 Hwy 24 Lawler, IA 52154

This storage area is located right next to our oil storage. Maintenance employees fill these small containers with oil from bulk containers. In this picture, all of the labels have either fallen off or had been wrote with magic marker and are no longer visible.

Before:

We used laminated tags and applied the chemical identity to each side of the tag. We attached it to the container using zip ties.

After:

Homeland Energy Solutions, Llc./Kyle Guertin/kguertin@etoh.us/563-238-5555/2779 Hwy 24 Lawler, IA 52154

Before:

Ladders are commonly found laying near or standing where they were last used. This creates a problem when an employee goes to use a ladder and cannot find the proper size or even find a ladder without wasting time looking for one.

After:

We installed racks at “ladder storage” areas. There are a variety of sizes at each station and employees know where to go to find a ladder, which saves time.

Homeland Energy Solutions, Llc./Kyle Guertin/kguertin@etoh.us/563-238-5555/2779 Hwy 24 Lawler, IA 52154

New LED warning lights were added to the utility vehicles. These lights replaced the older strobe warning lights. The new lights are easier for drivers to see on bright sunny days and they will hopefully grab the attention of a distracted driver. Our crews continually have issues with other drivers not paying attention when driving in our work zones. We wanted to do something to get drivers attention. So we have been adding new LED flashing lights to replace older strobe lights on all vehicles and crews have noticed drivers slowing down.

Old Flashing Lights

New LED Flashing Lights

A newer style arc flash face shield was purchased for our meter readers to pull and install electric meters. The older style was a two piece system that was difficult to see out of and was not user friendly. The newer style is a one piece system that allows the worker to raise the shield when it's not needed, it's easier to see through and it protects the face and neck area better.

Old Face Shield

New Face Shield

Our utility went to a fall arrest system for our linemen when climbing utility poles. This was done prior to the updated 1910.269 rules. We were concerned with our employees safety when climbing since we rarely climb anymore. There are places we still need to climb and the fall arrest system gives our employees a better sense of security allowing them to perform their job safely.

Old Style Climbing Belt

New Style Climbing Belt

Integrated DNA Technologies
1710 Commercial Park
Coralville IA 52241

2014 Submission

Project Breathe Again

The waste carboy assigned to column cleavers was loosely connected. This allowed NH_4OH vapors to contaminate the air, causing both lung and eye irritation. Paul Risner (EMA) quickly designed a solution to our problem. We have been vapor-free ever since.

Before

After

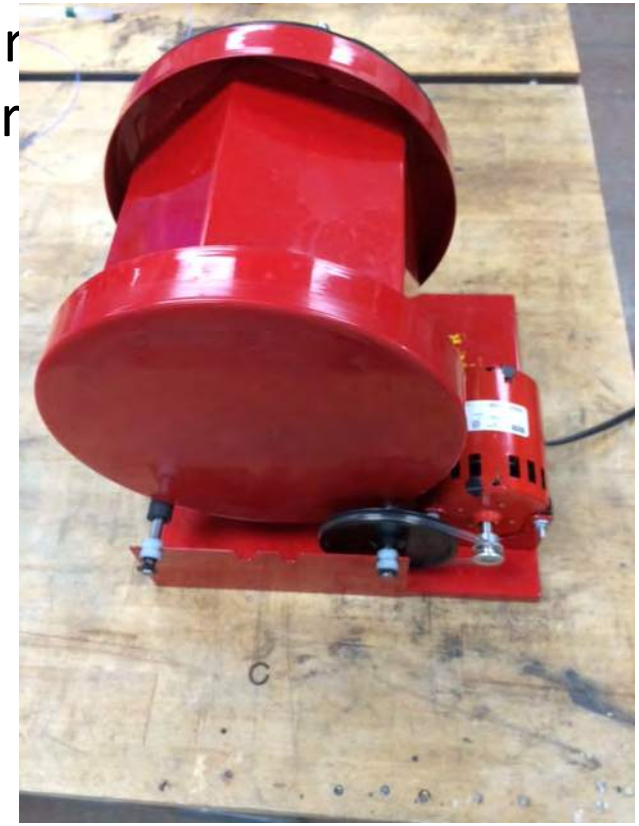
Ergonomic improvement

Prior to using the tumbler, the EMA employees had to hand sand 100s of these little solenoid plungers a week. Now they can put an entire batch into the tumbler. Which eliminates the fine grip and repetitive motion of sanding each pin individually

Before

After

- After
  inser



New Pope Purge System

Before

Old system used separate purge lines for each reagent. These lines were not secured into the cap of the carboy used. This caused lines to pop out while purging vessels, resulting in potential small spills within the secondary container and potentially beyond onto the floor and/or employee. This system was also open so certain chemical smells could and would often be present. The carboy used was a 10 liter vessel which would fill up quickly, resulting in more trips to pump waste out. Also, if not kept in check, the carboy would also spill out into its secondary containment. Below is a picture of the carboy that was previously used. The holes in the top were where each purge line for each reagent dispensed into the carboy. These lines were easily pulled from the top.

After

The new purge system is completely closed with only one purge line going into the waste. The single purge line has various attachments to accommodate all different pope vessels that we use. The line also has a check valve placed inline to ensure that no reagent gets contaminated by another. Finally, the line is connected to both the pope and the waste container with a swagelock fitting, ensuring that it stays in place, eliminating the chance for spills.

Secondly, the waste container is now a 200 liter blue vessel equipped with an alarm when the waste level reaches a certain point. The threshold is far less than 200 liters on the alarm, therefore, the risk of overflowing this tank is quite low. The larger tank also makes for less trips to pump out waste.

Added steps to access buffer system

The buffer system was above the counter making it difficult and potentially dangerous to access.

Before

Employees had difficulty reaching the buffer system and often resorted to climbing on the counter and putting themselves at risk of falling.

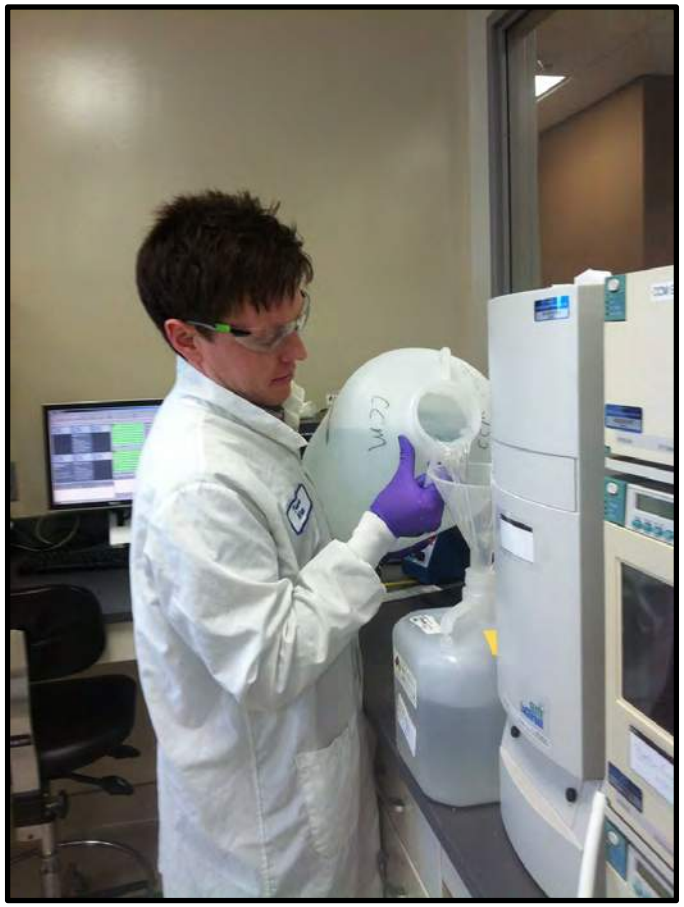
After

Part of the counter was removed and steps were added in order to safely access the buffer system.

CCM Carboy Filling

Installed 20L carboys with spigots for dispensing HPLC buffers in CCM. Previous procedure required heavy lifting and pouring of chemicals through a funnel. New procedure reduces risks of spills and improves ergonomics.

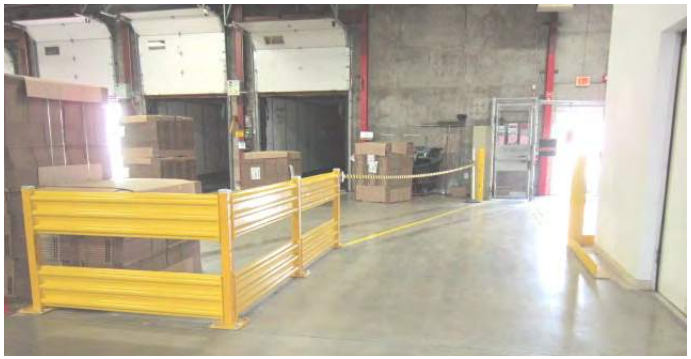
Before



After

International Paper Cedar Rapids Container
PIT/Pedestrian Hazard Reduction

- Our goal is to eliminate or drastically reduce the interaction of PIT's and Pedestrians
- We have limited entry to areas that PIT's drive, added physical barriers, strobe lights & radios, have eliminated several crosswalks, and created "safety zones".
- The whole process was a total team effort. We had more employee participation on this project than we have had for any other project



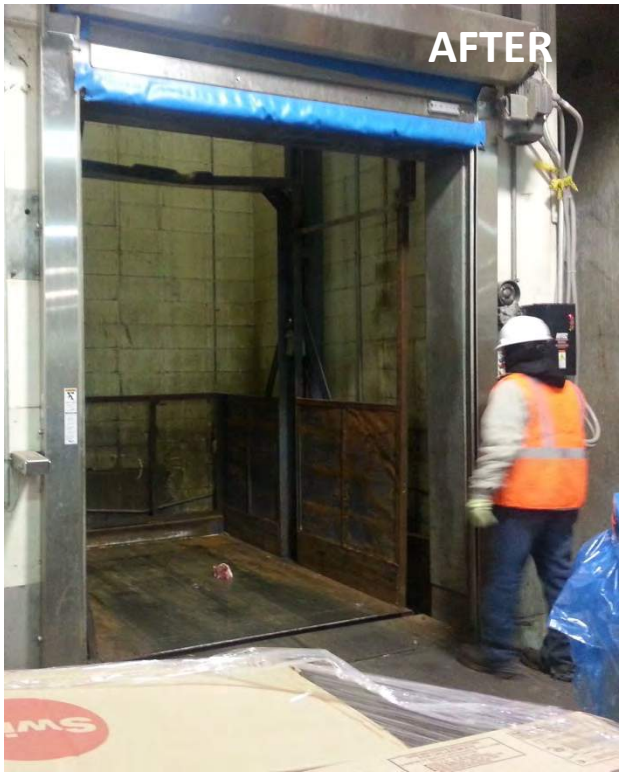
Electrical Safety on Farms

At Iowa Select Farms we have approximately 600 farms operated by employees as well as independent contractors working for us. Inside our barns we wash on a daily basis so the environment at times is wet. In the past all of these barns were wired with outlets and even though the panels were locked and tagged out while washing, water would still get into the plug-ins and once the power was restored it would cause them to short and arc creating a hazard for our employees and independent contractors.

To correct the hazard, we decided to stop using outlets in our currently built farms and go to hardwiring all electrical items and use water proof enclosures (feed motors, fans, heat lamps, heaters, etc.) For our farms that currently have outlets in them, we are going back through the farms and removing the outlets and doing the hardwire with the water proof boxes and covers. Iowa Select Farms has made a strong commitment to the safety of its employees as well as the independent contractors who work for us and this is just one of the many things we are doing to protect our employees and people who work for us.

Our process to put down ice melt during winter conditions was previously done manually. In 2014, we invested in a plow truck with a ice melt spreader. This makes our process much more ergonomic as well as efficient for our grounds keeping crew. This cuts our time down from three hours to one hour, making our walking surfaces a lot safer in less time.

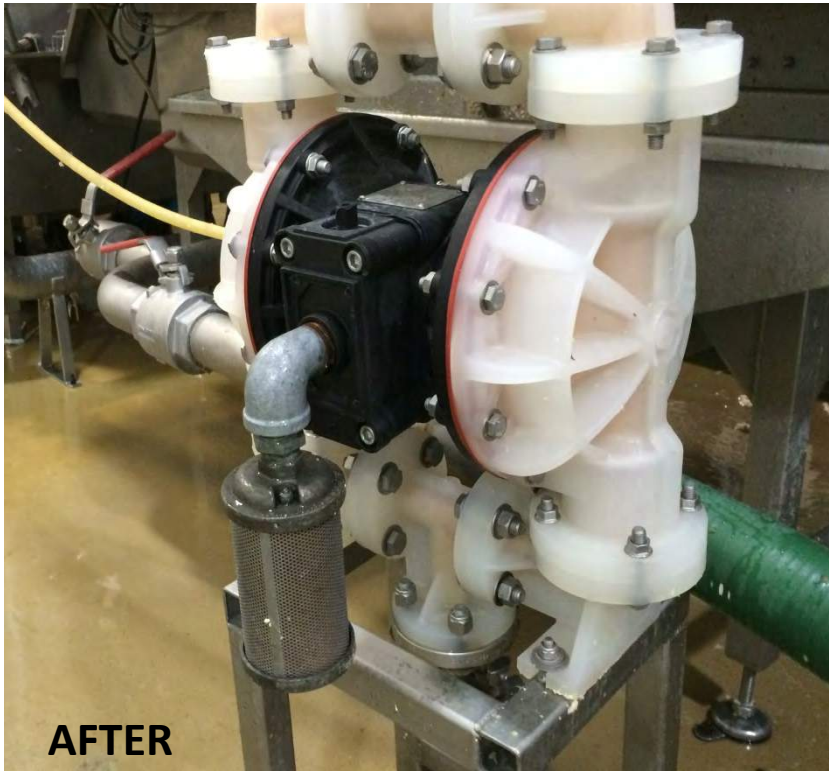
Our elevator that takes supplies and product up to our second floor has been out of service for some time now. This causes an increase in manual labor to be able to move supplies up and down. After investing in the replacement of our elevator, we have eliminated the risk of overexertion as well as slip and fall hazards for our employees.



Fall protection was a big push for us in Marshalltown JBS in 2014. We recognized a hazard with our current design and decided to make a change to ease access to work station as well as increase the level of security with our fall devices. Since then, we have bought and installed 22 stainless swing gates and look to continue the trend in 2015.

The new Power Tugger we purchased in 2014 eliminates the potential physiological stressors that were present in our process of transferring product from one floor to another. Before the Power Tugger, 2 of our employees would have to pull/push these meat carts which weigh an excess of 2,200 lbs. at a distance of 200 feet at least 10 times per shift. Now, we have the ability to move the same amount of meat effortlessly and it's operated by only 1 person.

In our Casings department, we utilize air driven pumps to move product from one place to another. These pumps were creating a loud working environment. We have now outfitted our 8 pumps in that area with mufflers. These mufflers have reduced sound 10 dB average for each pump. The whole room itself has a 14 dB difference, making it much more enjoyable area to work in.

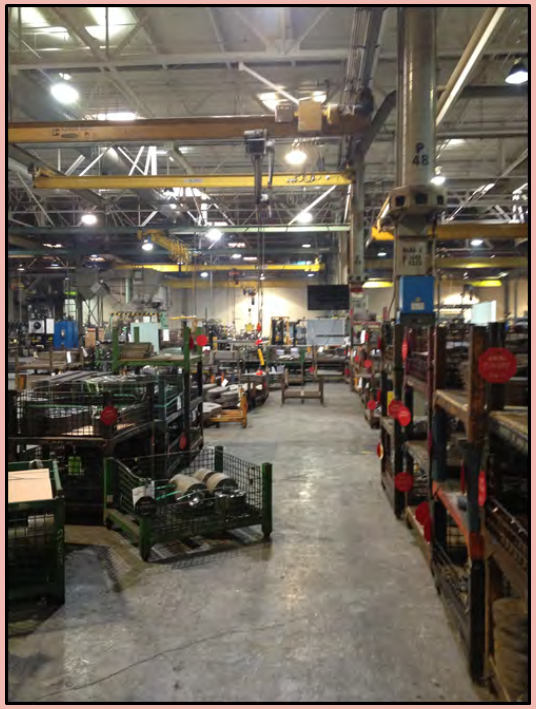


Thank you for working safely in 2014.

President Award

Title:	Kitting	Category:	Material Handling
Platform/ Location:	Davenport Works	Subsystem:	Material Storage and Retrieval
Key Issues:	Container layout caused ergonomic concerns; many safety concerns, production challenges, and quality defects.	Solutions:	Implement riser racks. Develop and use shorter baskets to increase part density. Provide access for hoist to heavy parts. Implement stoplight for part weight

Before:



Ergo Risk Factors

Stressors:
Limited hand clearance, heavy parts, poor workstation layout

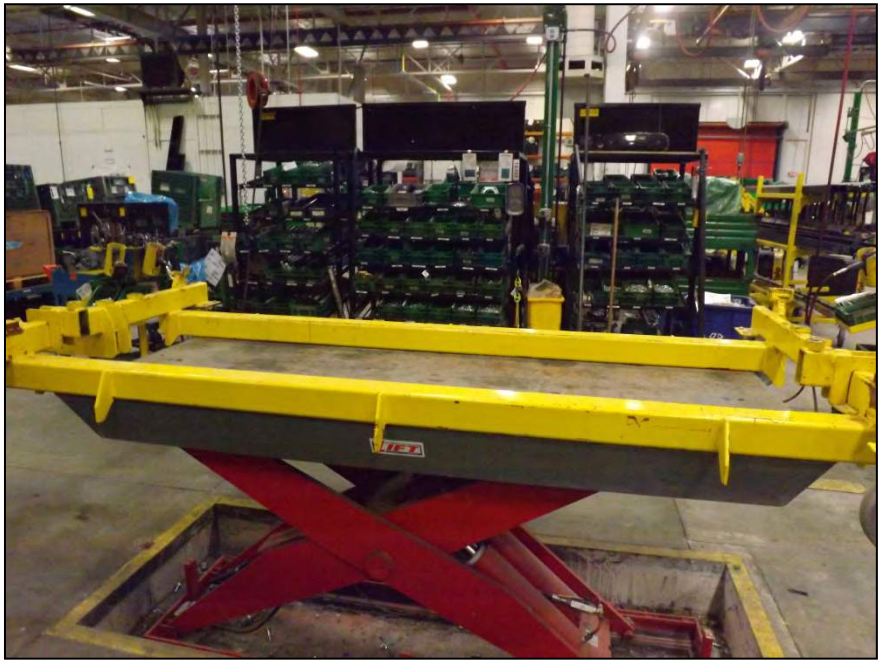
JDS-D86:
Parts weighing >35 lb should be lifted with a hoist or manipulator

Guidelines:

After:

Before:

- **Lift table is used for more ergonomic machine assembly. Cart was previously not secured to the lift table.**



After:

- **Square steel tube, spanning across the cart, is bolted into the lift table to secure cart into place. Machine is bolted to the cart.**

John Deere Engine Works

Tilt table and Torque tool

Before: Operator was inserting part at a high awkward angle with a high vibratory tool.

After: Tilt table and new torque tool were installed for better position and less vibration. The operator is now able to drive the tube with less strain to their shoulder and arm.

Before

After

John Deere Engine Works

Clips

Before: Manually inserted and pressed “Fir Tree” clips into engine. These clips are located throughout the engine and they require a lot of force to insert.

After: Engineered and manufactured device to insert and press in “Fir Tree” clips to avoid finger pinch, strain, and awkward hand position

Before

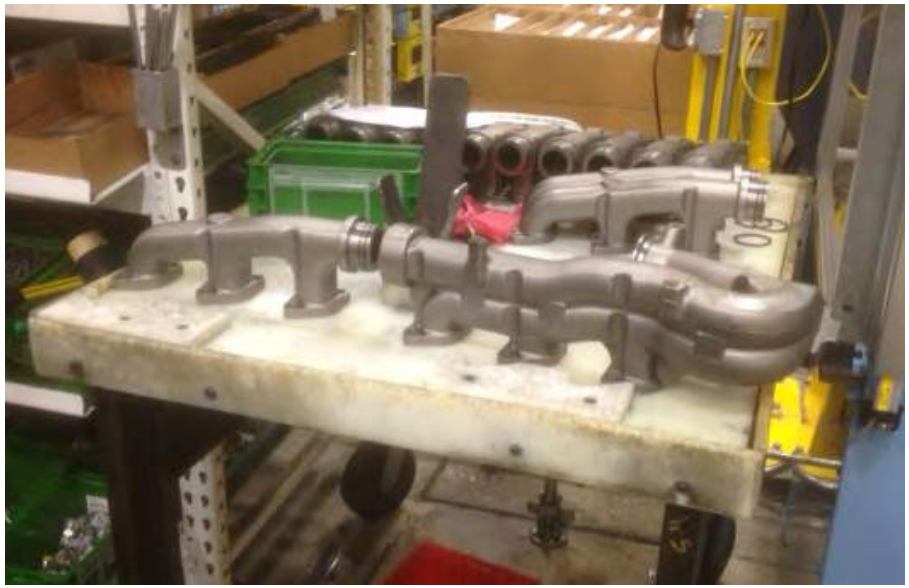
After

John Deere Engine Works
Manifold Press

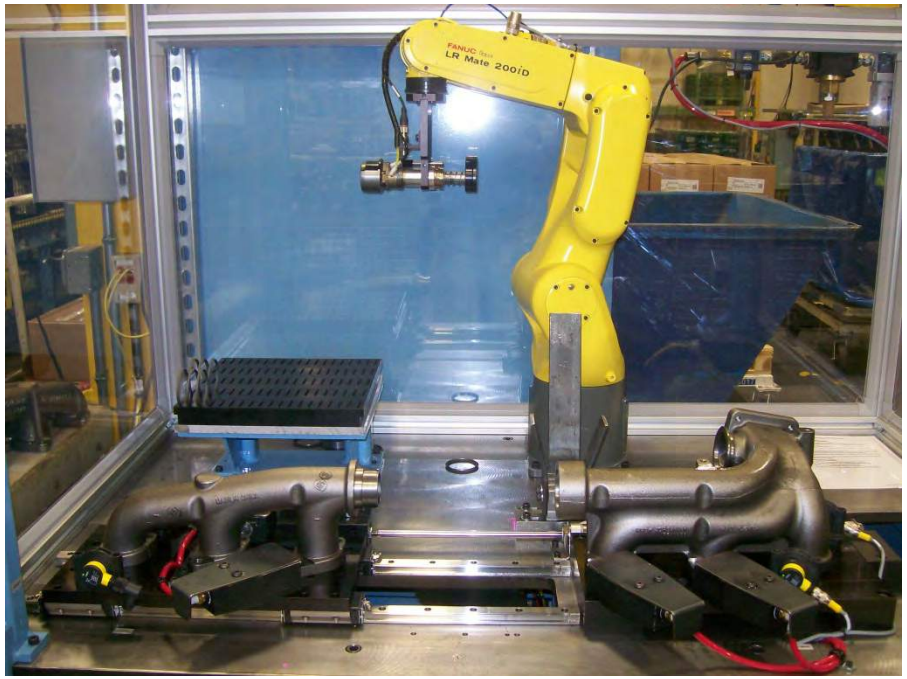
Before: Operator manually pressed manifolds together

After: Installed robot to press manifolds

Before



After

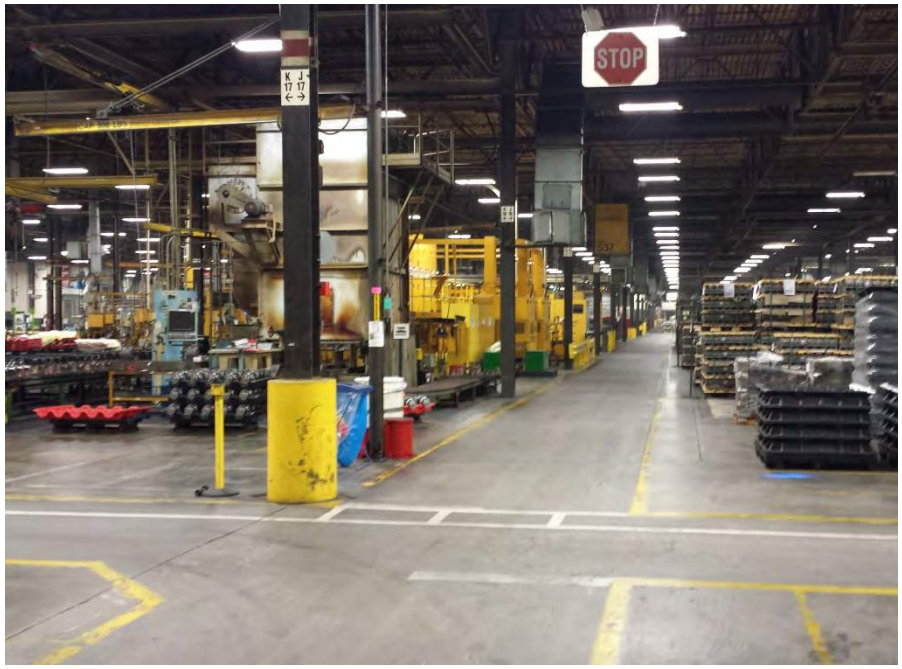


John Deere Engine Works
Stop Signs at Intersections

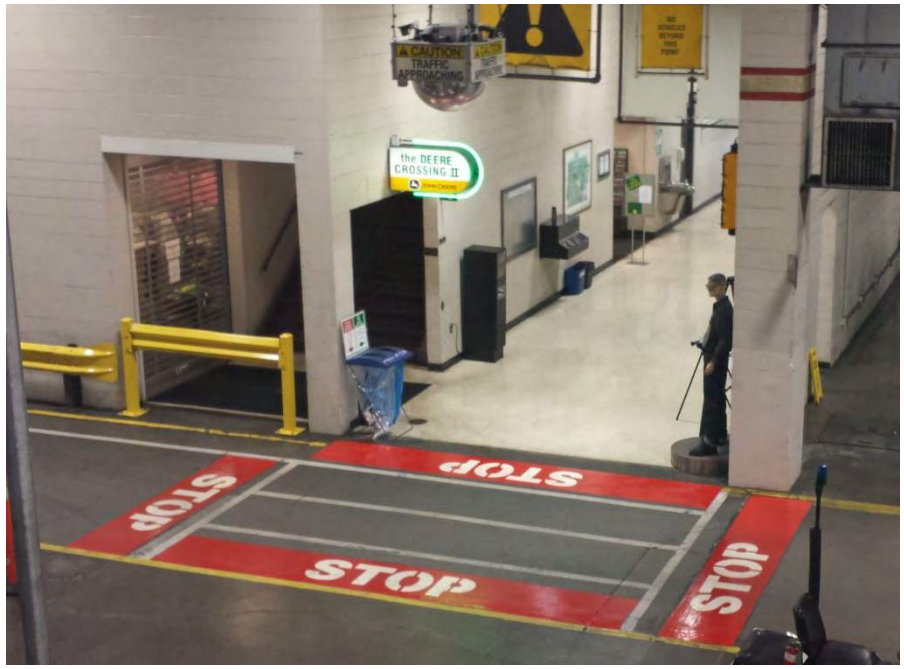
Before: Most intersections only had stop signs in place to communicate with drivers and pedestrians

After: "Stop" was painted on the floor and traffic lights installed at intersections to avoid accidents.

Before

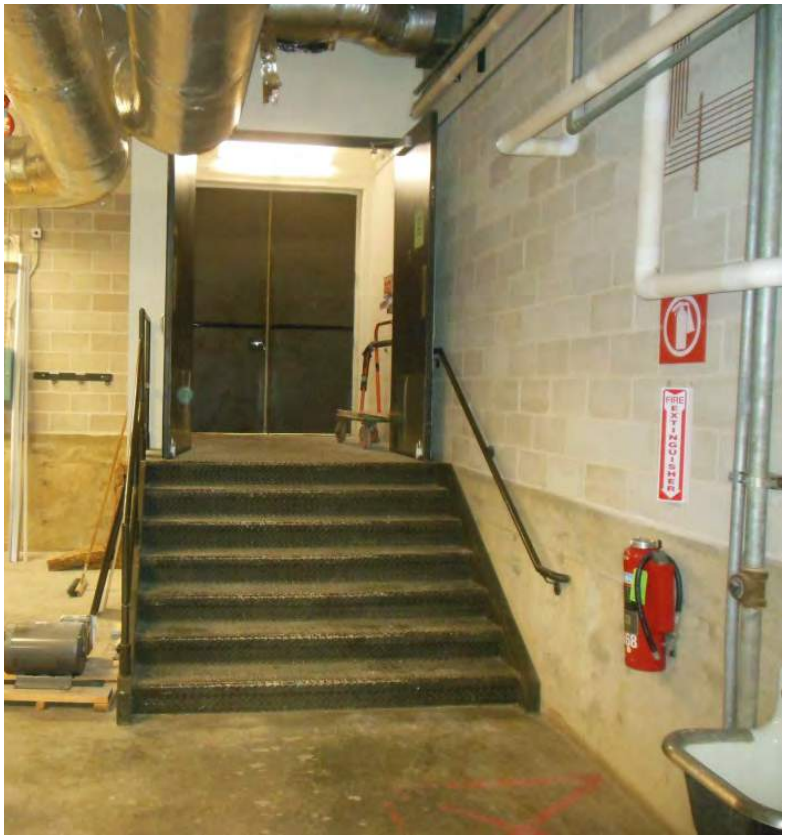


After

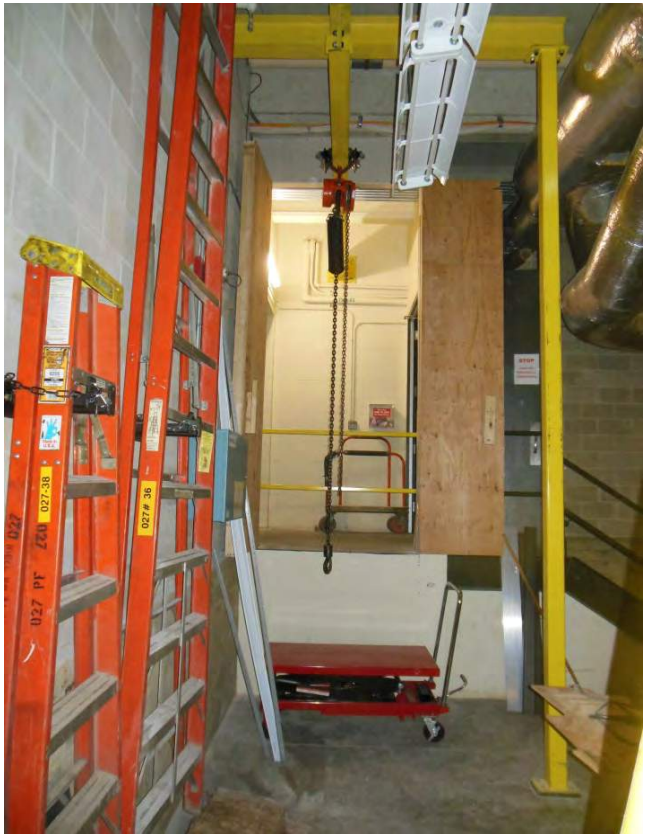


John Deere Waterloo Works PEC
Lifting of Heavy Motors

Before: **4 people or more required to move 200-500 pound electric motors between levels down these steps into the building 12 mechanical room.**



After: **Installation of 4000 pound capacity hoist allows one person to safely move these electric motors.**



John Deere Waterloo Works DTO
Potential for finger/ hand injury or strain to shoulder

Before

- Use of hammer and driver to perform task

After

- Pneumatic driver installed, Tool performs the task

John Deere Waterloo Works TCAO
Reverse installation of batteries resulting in arc

Before: **Batteries installed backwards arc when the negative and positive terminals are crossed.**

After: **Mistake proofed battery lifting device - prevents installing battery backwards.**

John Deere Waterloo Works Foundry Refractory Manipulator Arm

Old Process:

- All telphers and tundishes must be chipped down before being repaired.
- Manually hold chipping guns and rivet busters
- Operator wrist in non-neutral position supporting weight of 55 lbs

New Process:

- Advanced Manipulator
- Weight of the chipping guns and rivet busters are supported by the arm
- Vibration is dampened through the arm
- Ergonomically designed to reduce strain on the operator

MY14’ & Previous Manufacturing Method

- In order to weld full length of auger housings operators were required to manually manipulate housings in large pedestal spot welders while simultaneously activating foot pedal control for welding.
- Historically this was considered to be the worst job at Harvester Works
- RPN rating as high as 60
- Poor ergonomics and numerous safety concerns resulted in large number of work related injuries and quality defects

- Old manufacturing method required more capital and labor resources to meet demand at capacity requirements (2 pedestal spot welders)
- Material presentation / flow was poor

MY15’ & Forward Manufacturing Method

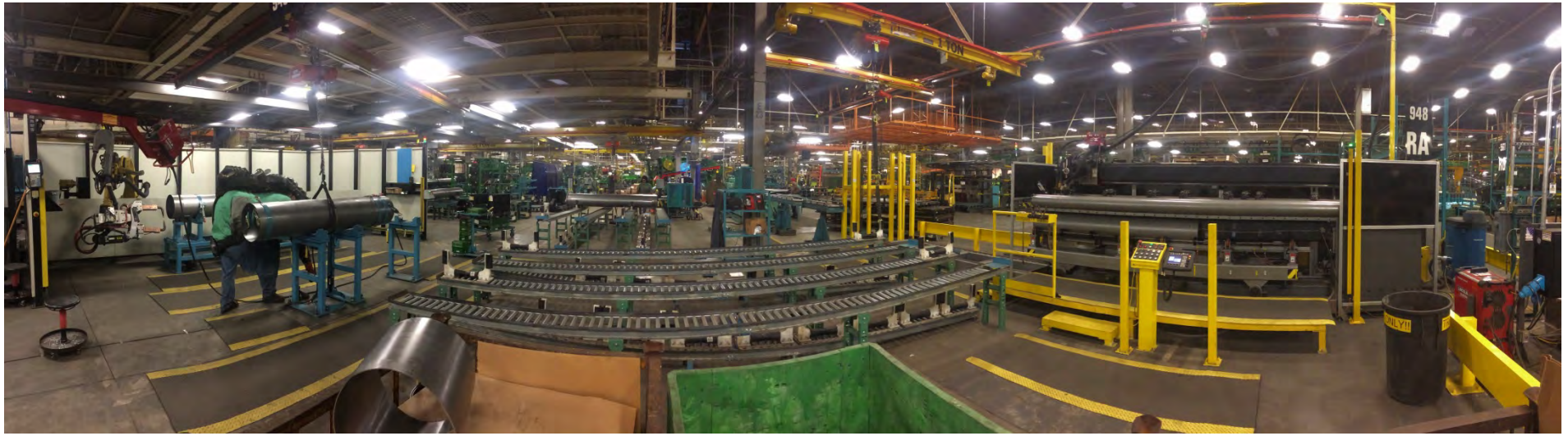
- New Linear Seam Welder will automatically load, align, and weld full length of 8 different auger housings.
- Operator uses 6-way powered hoist to load/unload part from cart
- Built in process control to assure quality parts
- New RPN of less than 10

MY15’ & Forward Manufacturing Method

- New Robotic Spot Weld cell automatically welds 8 different configurations of housings
- Process control features to assure quality parts
- Operator is required to load / unload parts using hoist to a stationary tool.
- Eliminates any awkward manipulation of housings as part of old process.
- New RPN of less than 10

Summary

- The use of specialized automation has reduced ergonomic impact on operator, thus reducing work related injuries and safety incidents.
- Process control and MES features built into tooling and automation to help assure quality parts
- New design incorporates less parts resulting in a more organized and streamlined workcenter
- IPK roller conveyors eliminate operator fatigue and workspace clutter
- More output achieved with less input from a labor perspective



Overhead door maintenance became a focal point after learning that they posed struck-by hazards. We learned that the guide wheels used to open the doors became dislodged after years of wear and tear, posing a hazard to employees.

BEFORE

AFTER

Overhead doors are the solution designed to maximize space and ability to allow access for large pieces of equipment to enter the room when needed.

Employees open and close the overhead doors frequently everyday to move product and equipment in and out of the space.

We noticed that the doors would malfunction when the raised too high. The guide wheels would come off the track, allowing the panel to free-hang, posing a hazard to the employee opening the door.

Our Maintenance Department installed metal stops (See picture to the right) to ensure the wheels always stay on track.

To improve contractor safety and security, a badge system was created to identify and assign contractor access levels. The system has improved safety and security for our 22 acre campus that has over 700 employees and 75 vendors/contractors.

The badges are equipped with site specific emergency evacuation procedures for the site.

KEMIN
INSPIRED MOLECULAR SOLUTIONS™

Evaluate Need

Testing:

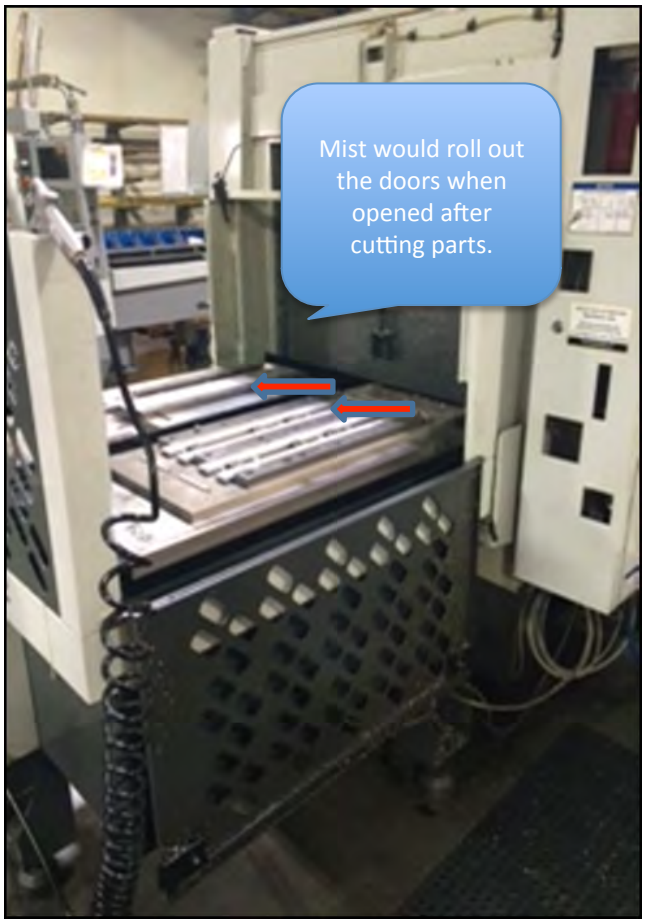
Test air quality in our machine shop to ensure PEL's are being met.

Evaluate Issue:

When cutting certain parts in our machines, mist would develop in our shop.

Develop Project:

Implement engineering controls to ensure the best air quality for our employees.



Implement Control

Project:

- To ensure the best air quality, we needed an engineering control to capture the mist before it escaped the machine.

- To do this, we installed a mist collector on this particular machine that created a vacuum to collect the mist. Once it collected the mist, the mist collector then turned the mist into liquid to be reused again. This increased the air quality to ensure a healthy working environment.

Hazard Control Award Entries

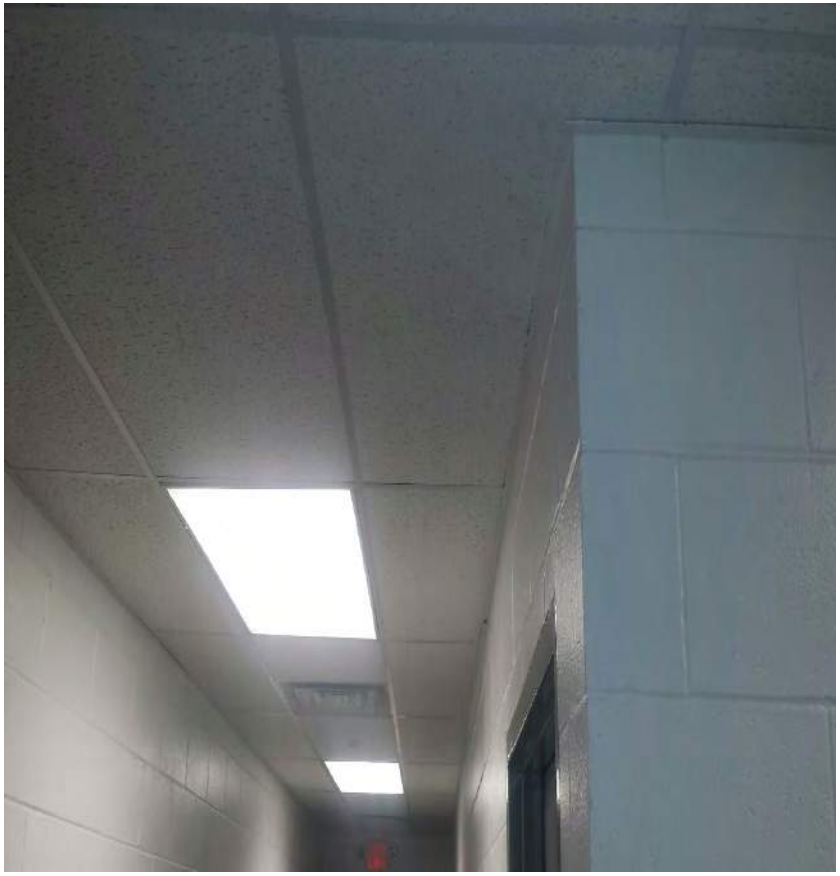
- **L & M ETHANOL MAINTENANCE CONTRACTING INC.**

- **Built by: Justin Goodno**
- **Safety Director**

Hazard Control Issues

- - - We encountered a few new safety issues this year and many had to do with the fact we moved to a new shop and home office.
- - - I decided it would be a good idea to share some of the hazard controls we added to our new “home”. It isn't always about being safe out on the jobsite we have to remember to be safe everywhere, everyday.
- 1. Lighting issues 4. First Aid Inventory and Safety Area Issue
- 2. Safety communication 5. Ladder Inspection Hazards
- 3. PPE issues

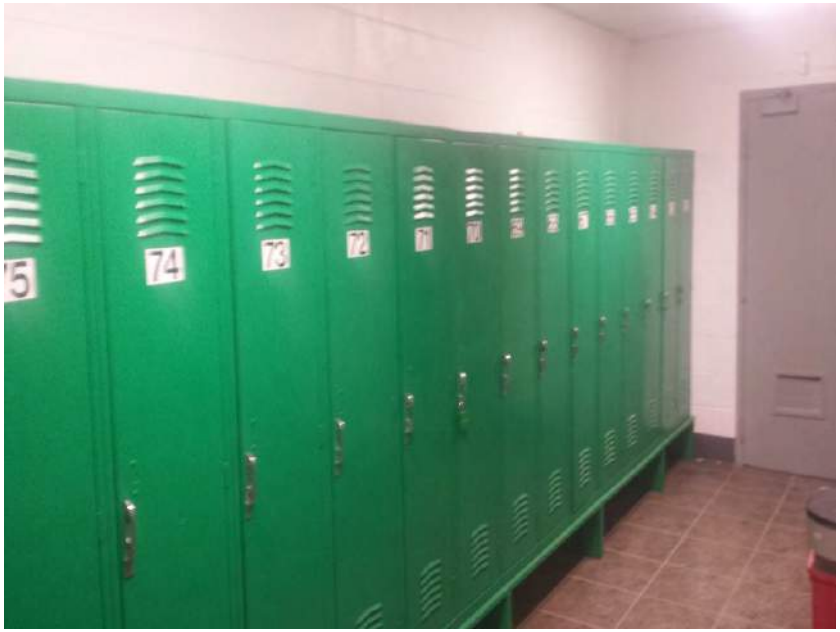
Lighting Hazard!
Motion activated lights are safer!! Employees had a hard time navigating our fab shop with ever changing areas of work. Although more expensive employees now safely make their way into work areas everyday!



Safety Communication Hazard!

Delivery of important topics and reminders was a problem until we created a safety bulletin board and days safe area for our employees. Now they see seasonal and timely info everyday! Many safety forms are kept in this area for them!

Another hazard we dealt with this year was having workers PPE kept onsite and clean. Many times workers PPE was damaged while in vehicles or at home. We installed safety lockers put in so employees can have their PPE at ready and clean at all times!!



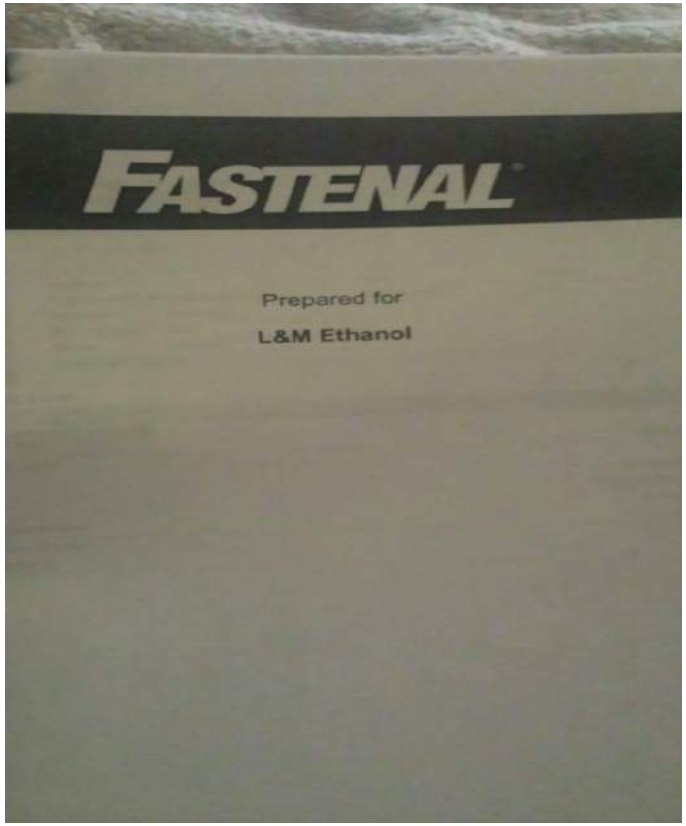
Safety Partner!! We partnered our safety needs with Cintas. They routinely check and fill our first aid kits and keep all supplies fresh!

We at L & M decided to build an area for our workers to look to before working in our pre fab shop.

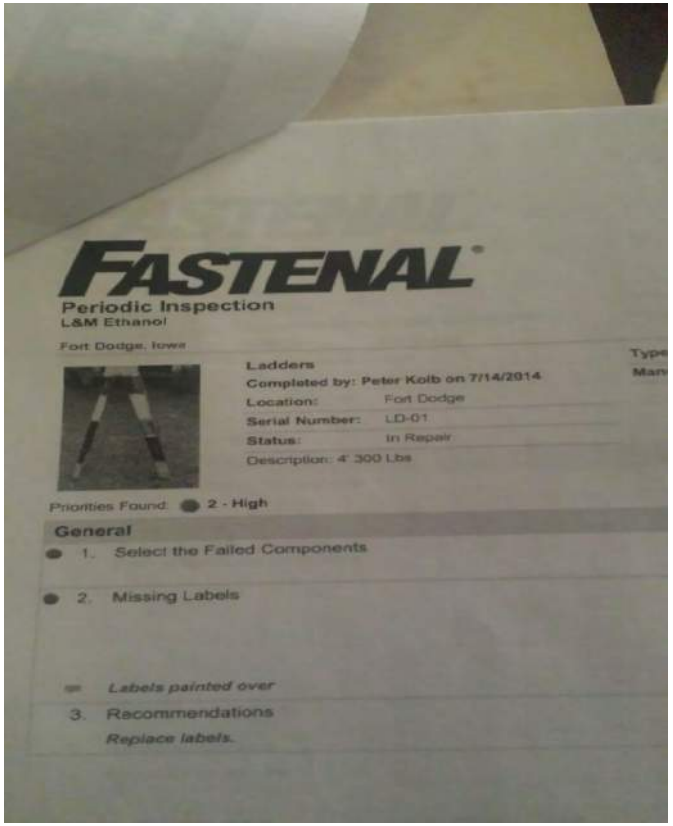
Eyewash station and dry erase notice and needs board. Ear plugs and dust masks readily available!

Ladder Hazards

We identified a hazard and mitigated it by partnering with Fastenal on ladder inspection.



Now we get a detailed report with what needs fixed and we tag ladders out of service until fixed!



THANK YOU FOR YOUR CONSIDERATION AND HAVE A SAFE START TO 2015!!

Justin Goodno - Safety Director
L & M Ethanol Maintenance Contracting Inc.
3830 Maple Drive Fort Dodge, Iowa 50501
515-955-2010