

2022 Hazard Award Submissions











Job Start Toolbox Talk

In the roofing and construction industry, an unforeseen incident requires figuring out how to get an injured or ill employee off a roof when they are incapacitated.

After experiencing this type of incident on a 40-foot tall roof and a delay in getting an employee to the ground for EMS to continue care, we required that an emergency action plan be developed by the crews onsite, approved by the project or safety manager before work can begin, and all crew members acknowledge the plan and discussion.

The Job Start Toolbox Talk includes:

- Checkboxes to ensure that specific safety items have been complete (Job Hazard Analysis and fall protection plan complete, reviewed, approved, and discussed with crew; PPE identified for the scope of work with adequate supplies on hand; and OSHA Labor Law poster, COVID information, and site requirements displayed and visible to all onsite).
- ✓ Emergency number(s) to call.
- The address of the facility with specific building name or location at the plant's site.
- Identifying and listing feasible ways to get an incapacitated individual off the roof in order of preference (e.g., Mobile Elevating Work Platform [MEWP]).
- Emergency reminders to protect the rescuer and the injured or ill employee.

This mandatory toolbox talk, electronic and fillable by the supervisor and crew, has been very effective in the emergency action pre-plan and also reminds all employees that prevention is the key for an effective safety program on our jobsites.

John Deere Des Moines Works – Ankeny, IA

Robotic Handling in Machining/Heat Treat Cell



Description of Before:

Approximately 150 spindles per shift per operator and machined. Spindles range from 9-19.5 lbs. each. Each spindle is handled 4 times. Thus, approximately 9,400 lbs. are handled per shift per operator. After Photo



Description of After:

Robotic arm handles machined spindle into and out of heat treat and delivers finished product.

This reduces manual handling of spindles by 75%. Remaining handling is done at an ergonomically advantageous position.

John Deere Des Moines Works – Ankeny, IA

Sprayer Axel Retorque



John Deere Des Moines Works – Ankeny, IA



Early Intervention Program

Description of Before:

For FY14-FY18 sprains & strains were 55.1% of our OSHA recordable injuries and 22.8% of reported sprains and strains would eventually go recordable.

Treatment of complaints starts after report of injury and involved non-conservative care modalities.

Description of After:

Implementation of an Early Intervention program focused on MSD complaint recognition early with conservative care, proactive engagement with employees, preventative stretching programs, work conditioning for new hires, work center review and first report of injury to early intervention specialist. Resulting in: Sprain strains now are only 30.4% of our OSHA recordable injuries and only 14.3% of reported sprain strain injuries are recordable.

Ultrasonic Leak Detection

To improve our Leak Detection Program and reduce employee exposure, East Dubuque Nitrogen Fertilizers implemented ultrasonic leak detection of the process equipment. The device is 100% more efficient than the previous program of utilizing a handheld vapor detector.

The device pinpoints the noise from the leak, blocking out the background noise, and is able to detect smaller leaks more accurately and readily.

The picture to the right illustrates a leak of Syngas detected by the camera, but undetected by the handheld vapor detector.





Liquid Sulfite Injection

To reduce chemical exposure for our employees, East Dubuque Nitrogen Fertilizers implemented a chemical injection system for Sodium Bisulfite. The bulk tank is filled by a third party completely eliminating handling by our operators.

Our previous system utilized a powdered Sodium Bisulfite that our operators had to mix by hand while wearing respiratory protection. The solution was then dumped into a day tank twice per shift. Sodium Bisulfite is a respiratory irritant.



A CVR Partners, LP Company



New Bulk Sulfite Tank with Metering Pump

Old Day Tank that was filled by hand by Operators



Safety Culture Improvement

East Dubuque Nitrogen Fertilizers instituted an initiative to improve the safety culture of the plant, and thru the process, achieve a reduction in injuries. With the assistance of a consultant, EDNF conducted a five-day workshop to assist develop a 5-year Safety Culture Improvement Program which is now called

"Safety Strong"



The "Safety Strong" Initiative is based on 5 key issues that were identified as roadblocks in affecting the safety culture of the plant.

These include:

- Better Communication
- More Coaching Opportunities
- More Collaboration in Developing Safety Policy
- More Consistency in Managing Safety.
- Trust Improving & Ensuring a Level of Trust Between Employees & Management

The steps on the driver's side of a truck are not off set, making it difficult to find lower step. By attaching the temporary step, a fall hazard was eliminated



Pedestrians would enter the warehouse and walk thru the main vehicle traffic areas with exposure to numerous powered industrial vehicles. A designated walkway was identified for safe travel thru the area.

Before



After



During the winter months bags of ice-melt and shovels are placed by the doors to be used as needed. The shovels sometimes fall to the floor and ice-melt is spilled on the floor. Carts were designed and made to hang the shovel(s), 30 gal. trash can to contain the ice-melt and a hand spreader.

Before



After

Maintainer Corporation – Sheldon, Iowa

Truck Safety Handles



Before when team members would climb on and descend off the back of the truck, they could not reach the grab handles on the truck. There was risk of them losing balance or footing and falling to the floor. We built a handle that is inserted into the receiver hitch in the back of all the trucks. Now as they go up and down the steps there is a handle for them to use for support. This stays with the truck until after final inspection and then taken out and reused in the next truck.

Syngenta-Pekin, IL

LOTO Improvement

Before Photo



Description of Before

We are a Soybean Conditioning site which has many LOTO procedures throughout the complex. Many of the procedures are kept in 3-ring binders on a windowsill or atop of the machine that the procedure is written for. In addition to this, the binders are often exposed to the dust of and grime of the conditioning process causing them to breakdown throughout the year.

After Photo



Description of After

To combat this situation and improve that availability of the LOTO procedures we repurposed some field boxes that are watertight and large enough to keep the 3-ring binders out of the elements. This ensures that the production techs have legible steps to follow when performing LOTO within the plant.



• Drums of flammable materials were being stored outdoors on pallets which were not in containment.



• A spill containment drum pallet was purchased to store the flammable material and contain drips. It was also moved to a sprinkler protected area. Employees would walk next to our receiving building and not be able to be seen by exiting drivers. Chain was installed to keep employees, that were walking, a distance from the building so they could be seen by drivers easier.







- Before: Employees who accessed a rooftop HVAC unit would have no fall prevention once they reached the top of the ladder.
- After: Railing was purchased and installed to protect employees accessing the roof.





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There is an area in the warehouse that has a lot of traffic. We added a safety light so Team Members would know when there was PIT or foot traffic



We did not have a dedicated path in the warehouse for foot traffic. We researched the safest route and put a walking path in. Everyone who uses the walking path needs to wear an orange vest









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The Team Members were using a metal grate to stand on when they needed a little extra height. They were uncomfortable and not safe. We switched them out with a medical grade step and the Team Members love them. These new steps do not slide or get slippery on top.

Syngenta Seeds, Jefferson IA – Tru-bulk Loadout

Soybean seeds are shipped in bulk boxes, paper bags or in Tru-bulk. Tru-bulk is the process of filling semi trailers with milled soybean seed ready for planting at farm.

Before adding this direct line from the mill to Tru-bulk tanks, boxes were filled at packaging and stored in our warehouse until it was time to load the seed into semitrailers for shipping. This process required forklifts to touch each box ten times.

By running a conveyor system from the mill, directly to a series of bulk tanks, we've eliminated 100,000 forklift touches annually. Fewer forklift touches greatly reduces the opportunity for accidents that cause personal injury and property damage.

In addition, the need to manually handle 10,000, 25- pound box lids was eliminated.



Seed goes directly from mill to storage bins to semi- trailer

Submitted by Steve Pope, Syngenta Seeds, 300 American Ave. Jefferson, IA 50129 (515-351-8178)

Syngenta Seeds, Jefferson IA – Bulk Beseting exitiving rocks and Every summer after planting, farmers return thousands of empty bulk boxes to our site to be inspected, washed and ready to refill with seed in the fall.

The process for inspecting and cleaning rocks/debris from the underside of the box involved setting the box on a stand and employee standing underneath to clean the debris in the box webbing overhead.

A project was launched to reduce ergonomic concerns and the potential to have debris fall in the inspectors' eyes. An in-line conveyor box tipper was installed to eliminate the need to look up and reach overhead. The position of the box also eliminates the risk for an eye injury. An additional benefit was moving the inspector away from all forklift traffic in the area onto an elevated platform to inspect the box safely. Before



Submitted by: Steve Pope, Syngenta Seeds, 300 American Ave. Jefferson, IA 50129 (515) 351-8178 Vertical Lathe – Oil Mist Collection System SAFETY Improvement – **Before**: Previously the Toshiba Vertical lathe during operation would shoot a cloud of oil mist out the top of the machine and into the air, right behind the machine up on the wall you will see an air exhaust fan and so the machine was running and the oil mist was coming out of the machine when, then exhaust fan would be turned on the oil mist was get blown across the Plant. **After**: We purchased a Torit oil mist collection system with an arm that extends into the machine an collects the oil mist at the point of use eliminating the safety and environmental hazard.

Precision Inc, Pella Iowa

Before



After



When working overhead it is not always tools that fall. To protect workers below, we have required rock climbing style hardhats

while working from heights. This eliminates the hazard of head injuries should the worker's hard hat fall off while working from heights striking someone below.





Syngenta-Pekin, IL

Ergonomic Improvement

Before Photo



Description of Before

When filling Qbits for the customer we require the slides to be cleaned, inspected, and tagged on each box. This causes an ergonomic issue with excessive bending.

After Photo



Description of After

We installed an automatic Qbit line with a mechanical lift station allowing the employee to stand and perform the required process to ensure the bottom slide gate is within specifications.

Helena Industries, LLC: Des Moines, IA

Rail Spur Fall Protection Improvement



We had about 220ft of rail line (two tracks) that we historically struggled to provide adequate fall protection. We have been using a mobile staircase, however that presented it's own hazards with winter time moving, and the limited space when both tracks have rail cars on them. Most design options required support post to run between the tracks. That was not an option due to the need to drive between cars.



After evaluations of several companies and design options we partnered with Tritech Fall Protection. Their design allowed us to cover 220ft of both tracks with no posts or other bollards in the way of travel. This options allows full above head tie off anywhere along these tracks. This also reduces the risk of moving a mobile staircase unit between cars. The green lines show location of new overhead tie off lines.

Helena Industries, LLC: Des Moines, IA

Fall Protection Improvement



Typical gates require the pallet to be staged past the gate so it can close again. Our mezzanine depth could not accommodate that. Installed air powered gates too slow to open/close and slowed production. That left the only choice to put workers in harnesses and tie off overhead. This was cumbersome to work in to perform the tasks. In addition every person working up there had to be trained and issued a harness.



Found new type of gate. This gate had an outer gate with toe board that would serve as protection when the gate was not in use. While dumping super sacks the outer gate would be lifted out of the way and the inner gate would provide fall protection 100% of the time. The inner gate self closes when the super sack is lifted away from it. So the worker stands to the side of the open gate then lets it close for safety as the super sack is lifted away.



Before – We used forklifts and chains to unload and load trailers.



After - We installed 12.5-ton crane to help unload and load trailers. No longer putting our team members in harms way.



CARDINAL GLASS INDUSTRIES COMPANY

Before – April 2021 we had a team member go into cardiac arrest. The EMT's had to carry the gurney down our stairs.



After – Installed a ramp outside of our west break room. The Ramp is also enclosed as well. Protecting the ramp from weather elements. The ramp allows EMT's access to help our team members better.



Keizer Refrigeration-Sioux City, Iowa

Trailer Refrigeration Unit Solar Panel Installation



Description of Before

Because newer trailer refrigeration units are many times using solar charging panels. This required techs to gain access to the roof of a trailer due to the unit being installed first. However, because our facility was not designed with a fall protection anchor point, techs risked climbing a ladder and crossing over to the trailer as well as working from heights without harnessing.



Description of After

Installation procedures were revised to install the refrigeration panel BEFORE the rest of the unit was installed and a scissor lift was purchased for gaining closer access to the roof area without having to climb onto the trailer roof itself eliminating the fall hazard.

AGROPUR – Hull, Iowa

Vacuum Chamber Door Safety



where the entrance door could drift down (close) when all energy was dropped and locked out during entries. The above picture shows the outside frame of the chamber door that guides door to close on the chamber. Shown in the picture above, a heavy-duty pin was added to the door guide to stop any drifting of the door when all energy was dropped from the confined space when entering it. The pin also activates a prox that is a secondary control for the energy of the confined space.





INCREASE PPE FOR EMPLOYEES AT NORWALK LOCATION

During 2021, Windsor Windows & Doors completed hearing testing at the Norwalk site. Due to noise from the size of the building, increase production, and the use of many saws to cut vinyl hearing protection became required and protection was provided to all employees at this site. Windsor works at being aware of hazards in the workplace and eliminating those hazards.



All manufacturing employees are **required** to wear the referenced footwear protection – **NO EXCEPTIONS**. Footwear will be replaced on an "as needed" basis. Employees can order directly from Grainger. In some situations, employees can be reimbursed up to \$125 for approved footwear with a receipt.

FOOTWEAR RE-IMBURSEMENT PROGRAM

Due to larger window/patio door units being produced and the use of more rolling carts in the facility, Windsor Windows & Doors began a re-imbursement program for protective footwear to all production employees based on the job responsibilities. All employees now wear protective footwear for production against the work elements associated with daily production.

EQUIPMENT IMPROVEMENT

With the customer demand of larger patio door units, Windsor invested in a patio door crane to eliminate employee fatigue, excessive daily heavy lifting, and to improve on a safer work environment. Before the crane arrived, the process was a two or three person lifting situation with added risk.



