Safety and Technology – A 21st Century Approach to Managing Safety

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Manager – Health, Safety, Environmental

Who am I?

- **BS – Emergency Management – University of Akron (2006)**
- **AAS – Fire Protection Technology – University of Akron (2006)**
- **CHST – Board of Certified Safety Professionals (2014)**
- **10 years as a safety professional working in manufacturing, utilities, insurance, and construction.**
- **Originally from Pittsburgh, PA**
- **Reside in South Bend, IN**
- **Field driven safety professional**

"I'm a logical thinking, attitude changing, carrot feeding/stick throwing, engaging son of a…."

Who is XL Industrial Services, Inc.?

- **Based in Laporte, IN**
- **80 employees**
- **Full service mechanical, electrical, and painting/coating contractor serving liquid gas terminals.**
- **Licensed in 46 states and the Bahamas**
- **10-15 crews working across the country at any given time**

Objectives

- **Discuss the challenges of managing safety in the 21st century.**
- **Discuss the options for addressing these challenges.**
- **Review one technological option that may be viable to you.**
- **Understand how technology can elevate your safety management efforts.**

Challenges

What are your challenges of managing safety?

Who is managing your facility/jobsite safety on a day-to-day basis?

What type of safety documentation do you require?

How do you manage this documentation?

What do you do with this documentation?

Challenges (XL)

Transient Workforce
- Communicating employee training to foremen, inspectors, customers.

Safety Documentation
- Toolbox talks, Job Hazard Assessments, Equipment Inspections, Jobsite Inspections, Permits, etc.

Information sharing
- How do we most effectively and efficiently relay information from the field to management?

Quality Control
- How do we verify the documentation is accurate and done correctly in a timely manner?

Information management
- What do we do with this information?

Make life easier for our field employees

Challenges - Transient Workforce

- **Multiple projects throughout the country**
- **Multiple trades**
- **Crew size and dynamic changes**
- **Verifying employee training – foreman**
- **Training gaps**
- **Communicating training**

Challenges – Safety Documentation

- **Toolbox talks, Job Hazard Assessments, Equipment Inspections, Jobsite Inspections, Permits, etc.**
- **Multiple documents for each work day**
- **6 day work week**
- **Document retention onsite**
- **Receiving information in a timely fashion**
- **Reactive vs. Proactive**
- **What to do with this information?**
- **Trending and information analysis**

Challenges – Information Management/QC

- **Condition of the paperwork**
- **Quality of the information provided**
- **Response time**
- **Accountability**
- **Response time**

Challenges – Make Safety Easier

- **Reduce the amount of time it takes to go through the daily safety process.**
- **Reduce clutter**
- **Improve efficiency and response time**
- **Take work off of the foremen's plate**
- **Save money**
- **Improve our safety culture**

Old School to New School

June 2014

- Purchased software to more efficiently and effectively document timekeeping, diaries, equipment use, receipts and track job related costs (Heavy Job)
- iPads provided to all field foremen to accurately document field activities

March 2015

- Purchased "bolt-on" software that uses information from jobs in Heavy Job as well as other entered data to more efficiently and accurately bid work (Heavy Bid)
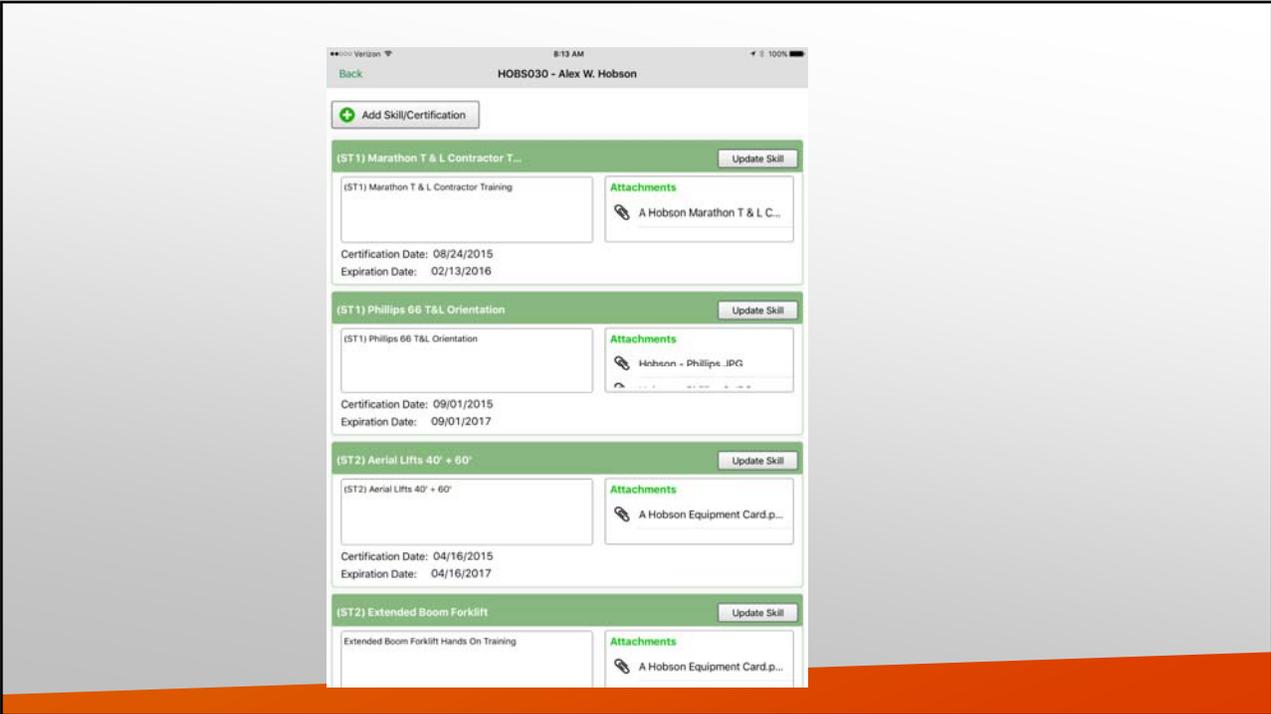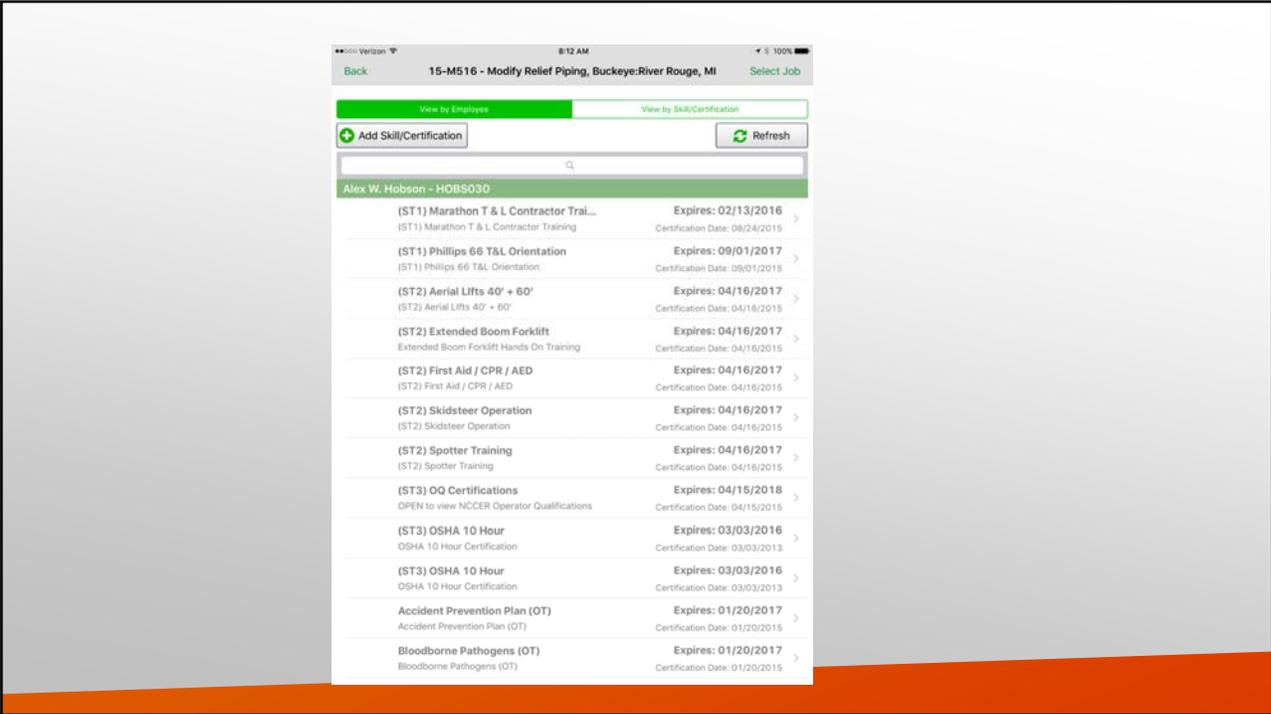
June 2015

- Purchased "bolt-on" software that more efficiently and effectively documents our safety processes, relays information to management, and tracks corrective actions to close.

Paper heavy to virtually paperless!

New School – Skills/Certifications

- **Skills management**
- **Tracking skills**
- **Information sharing**
- **Attachments**
- **Skills verification**

New School – Safety Documentation (Toolbox Talks)

- **We require all work crews to conduct a work task specific toolbox talk prior to work, each work day.**
- **Company specific toolbox talks are loaded into the field user application from the management system.**
- **Foremen, or the foremen's designee for the day can choose a topic that is related to the day's work, and pull up a PDF document to share.**
- **After the toolbox talk is shared, employee's sign toolbox talk electronically using a stylus pen or finger.**

New School - Safety Documentation (JSAs)

- **JSAs are a daily requirement for all work crews.**
- **JSAs may be developed using a customer's paper document or using the application.**
  - When a customer requires us to use their paper document be used, the foreman, or their designee, will complete the document, discuss the document with the crew, obtain crew signatures, take a photo from the iPad's camera, and attach it to the application.
  - When a customer does not require us to use their document, the foreman or his designee can build the JSA either from a template JSA that was created by management for a specific job task and loaded into the application, or build the JSA from scratch.
- **When JSAs are completed, they will be discussed amongst the crew, who will sign/acknowledge the JSA using an electronic signature (stylus pen).**

New School - Inspections

- The equipment we typically have on a job site include rough terrain forklifts, aerial lifts, scissor lifts, skid loaders, compressors, all-terrain vehicles, and generators.
- The safety application has inspection forms on each type of equipment noted above that are specific to our use.
- Build your own inspections
- Photos/comments
- Identifying issues
- Assigning corrective actions
- Tracking corrective actions through completion
- Trending data
- Instantaneous feedback

New School – Near Miss Reporting

- From 2010 – June of 2015, XL Industrial Services did not record one near miss.
- Within 6 months of implementing this software, we recorded 3 near misses.
- 5 in 2016
- Efficient reporting
- Easy follow up
- ALERTS

New School – Incident Reporting

- **This application allows an incident report to be submitted in a similar way to a near miss, in that it only takes minutes to submit the form and is sent to management in seconds.**
- **Property damage, auto, injury**
- **ALERTS**
- **The incident form on the application includes the opportunity to include photos, videos, witness statements, and conduct a root cause analysis within the application**

Measuring Safety Performance

Lagging Indicators:

- **EMR**
- **TRIR**
- **DART**
- **OSHA Citations**
- **Fatalities**

Traditional methods for determining safety performance, especially for contractors trying to obtain work, are measured based upon the previous 1-5 years

Measuring Safety Performance

Leading Indicators (as of 1/13/17)

Since rolling out this software in July of 2015 we've seen the following:
1. **Daily Safety Meetings (toolbox talks and JSAs) conducted**
   - More than 6400 daily safety meetings conducted
     - 3481 in 2016
2. **Equipment and Jobsite Inspections conducted**
   - More than 6800 equipment and jobsite inspections conducted
     - 6300 Daily Pre-Use Equipment Inspections (4800 in 2016)
     - 500 jobsite inspections (281 in 2016)

Culture Change

XL Industrial Services Wins Indiana Safety Award with HCSS Safety

April 14, 2016
/ **Safety** / , / **safety culture** /
by **KRYSTEN POWERS**

XL Industrial Services, Inc. credits one thing to its recent big safety award victory.

http://blog.hcss.com/xl-industries-wins-indiana-safety-award-with-hcss-safety

Summary

Using technology has:

- **Given ownership of safety activities to field personnel**
- **Allowed safety activities to be delegated amongst the crew (cross-training)**
- **Given us measurable leading indicators to determine where we are successful and what we need to address.**
- **Streamlined communication from field to management.**
- **Significantly reduced a lot of paperwork.**
- **Industry recognition**
- **Transformed our safety culture – Safety is becoming "cool"**

Let's take a look at the application