



HOP Based Approach: *Leveraging Technology & Automation in the HSE Management System*

IBR/HASC Best Practices Seminar – June 2024

1. People make mistakes.

- Human error is normal. Design systems that can withstand errors!

2. Blame fixes nothing.

- Common sense, yet it is still a common reaction to workplace incidents.

3. Context drives behavior.

- Understand the circumstances (e.g. fatigue, production demands, broken equipment, etc.).

4. Learning and improving are vital.

- Are we changing and evolving or repeating the same cycle?

5. How leaders respond to failure matters.

- Do failures feel like an opportunity to improve vs. shakedown?

The
incident
was a
result of
human
error.

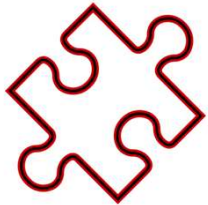
DROPPED OBJECT + GRAVITY
= DANGEROUS FORCE





Questions we asked:

- 1. How can we remove barriers and make things less complicated?*
- 2. How can we make things easier to understand and do?*
- 3. How can we make it easier to succeed and harder to fail?*
- 4. What redundancies, engineering controls, etc. can we implement to allow us to “fail safely”?*



ISS LEAK SEALERS

Our Journey - Simplifying Safety

Actions we took:

- Revising existing policies, removing unnecessary or redundant verbiage.
- Creating one-page flow charts & tables to provide visual reference.
- Redesigning equipment to eliminate failure.

ITEM NO.	DESCRIPTION	MATERIAL	QTY.
1	HPPG BODY 1	SA-516 GR 70 / ASTM-A140 / SA-105	1
2	HPPG BODY 2	SA-516 GR 70 / ASTM-A140 / SA-105	1
3	HPPG PLUG	SA-193 GR B7 / SA-194 GR 2H	1
4	Ø.326 DRILL BIT	COBALT STEEL	1
5	MECHANICAL STOP	SA-516 GR 70 / SA-574 GR-A140	1

ISS LEAK SEALERS	WEIGHT	ENCLOSURE WEIGHT	PLATE WEIGHT	STRAPBUCKLES WEIGHT	ADDITIONAL WEIGHT
	2.54	2.54			

ISS LEAK SEALERS INCIDENT RESPONSE & NOTIFICATION FLOW

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    graph TD
      A((INCIDENT OCCURS)) --> B[STOP WORK IMMEDIATELY & SECURE SCENE]
      B --> C{Did the incident involve an illness or injury?}
      C --> D{Assess the illness/injury - is it life threatening?}
      D -- YES --> E[INITIATE EMERGENCY RESPONSE (911 OR IN-PLANT EMERGENCY #), THEN NOTIFY ISE & OPS MGR.]
      D -- NO --> F[IF TRAINED, provide FIRST AID until condition is stable or]
      F --> G[Health, Safety and Environmental Management System]
  
```

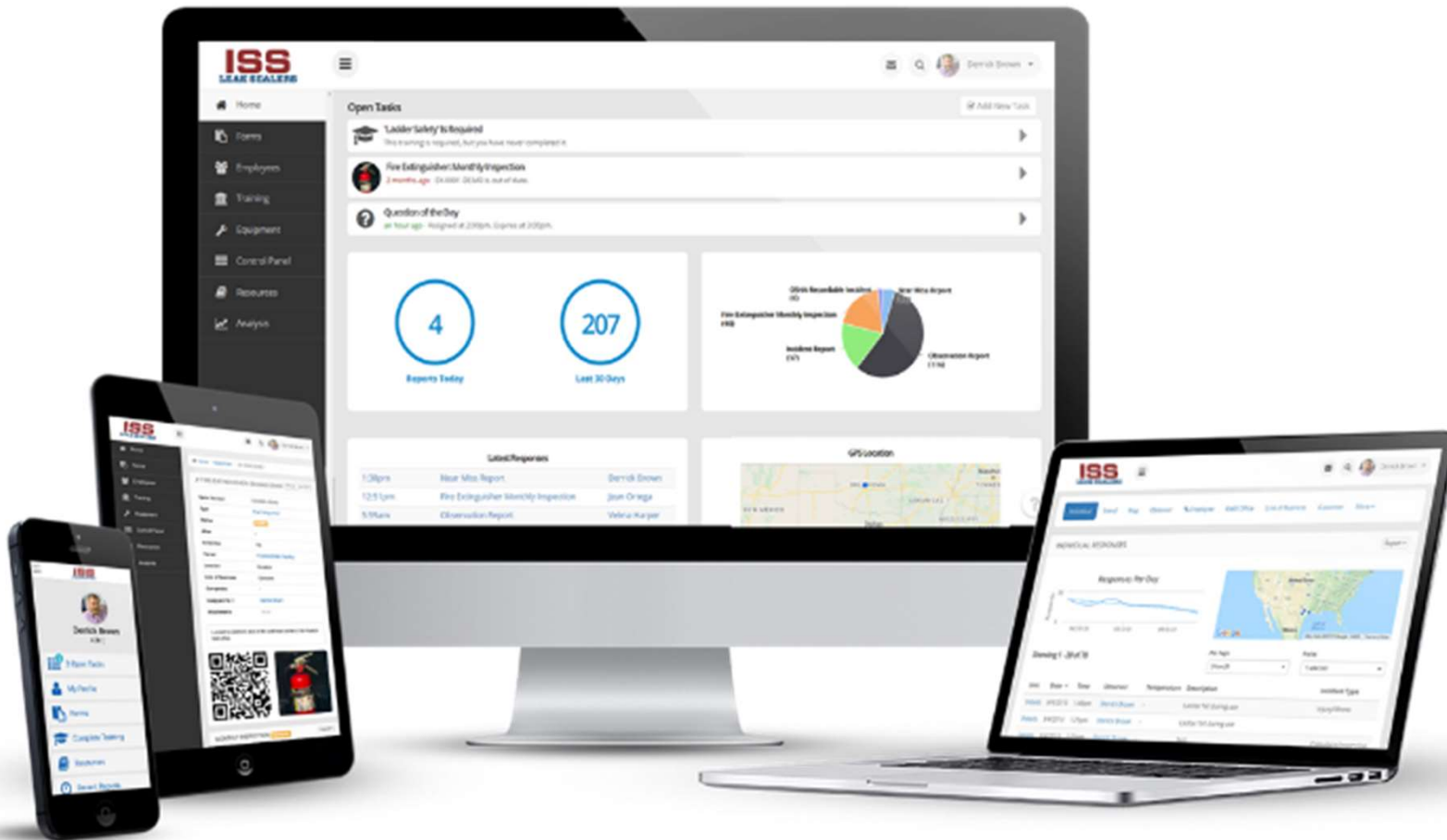
ISS LEAK SEALERS Health, Safety and Environmental Management System 7.9 HEAT-RELATED ILLNESS PROTECTION

Heat Advisory Level	Heat Index Risk Level	Work/Rest Ratio*	Protective Measures
<91°F (<33°C)	Lower (Caution)	N/A (Basic heat safety & planning)	<ul style="list-style-type: none"> Provide drinking water. Ensure adequate medical services are available. Plan for increasing heat index. Acclimatize workers. Promote workers to wear sunscreen.
91°F to 103°F (33°C to 39.5°C)	Level 1	60/10	In addition to the steps listed above: <ul style="list-style-type: none"> Remind workers to drink water (about 4 cups/hour). Review heat-related illness topics with workers. Schedule breaks in cool, shaded areas. Acclimatize workers. Set up a buddy system/supervisor to watch workers for signs of heat-related illness.
103°F to 115°F (39.5°C to 46°C)	Level 2	45/15	In addition to the steps listed above: <ul style="list-style-type: none"> Alert workers of high-risk conditions. Actively encourage workers to drink plenty of water (about 4 cups/hour). Limit physical exertion. Have a person knowledgeable of heat-related illness at the workplace. Establish and enforce work/rest schedules. Use cooling techniques. Watch and communicate with workers. Reschedule non-essential activities for a time/day with a lower heat index. Strenuous work tasks and those requiring heavy or non-breathable clothing or impermeable chemical protective clothing should not be conducted when the heat index is at or above 115°F (46°C).
Greater than 115°F (Greater than 46°C)	Level 3	30/30	If essential work must be done, in addition to the steps listed above: <ul style="list-style-type: none"> Alert workers of extreme heat hazards. Utilize auxiliary cooling methods (see § 8.12). Implement a hydration log (see § 8.6.3). Establish water drinking schedule (about 4 cups / hour). Develop and enforce protective work / rest schedule. Stop work if essential control methods are inadequate or unavailable.

* External factors should be considered when determining the Work/Rest ratio. E.g., Is the job/role in direct sunlight? Is heavy or specialized protective clothing being used? These and other conditions could cause the risk at a specific heat index to be higher than that listed in the table. Extra measures, including implementing precautions at the next risk level, may be necessary under these circumstances.

Issued by ISS HSE Department 6/1/2023 Revision 1.3 Page 7 of 15

ISS LEAK SEALERS Taking it a step further...



How can we leverage technology to automate our HSE Management System in a way that leads to...

- *True centralization of all aspects of the HSE management system.*
- *Taking the HOP operating philosophy and implementing it from the back-office and then out to the front line.*
- *Reduced human error by automating process and sub-process relationships.*
- *Full integration at all levels of the organization.*

Lagging Indicators

- ***Incident Reports***
 - ***Near Misses***
 - ***Injuries/Illnesses***
 - ***Motor Vehicle Incidents***
 - ***Property Damage***
 - ***Environmental***
 - ***Other***

Leading Indicators

- ***New Hire Mentoring***
- ***Approved Drivers***
- ***Training***
- ***Auditing***
- ***Equipment Inspections***
- ***Vehicle Inspections***
- ***Good Catches***
- ***Acknowledgments***
- ***Management of Change***
- ***Trending Data***

ISS LEAK SEALERS **New Hire Mentoring**

New Hires

- *New hire's profile is automatically created via a daily sync with ADP.*
- *Auto-flags new employee as SSE and assigns required training modules.*
- *At 90-day mark, task assignment is auto-generated in supervisors open task list.*

Mentors

- *Mentor module assigned to employees for mentor designation.*
- *Highlighted on profile and searchable by report.*

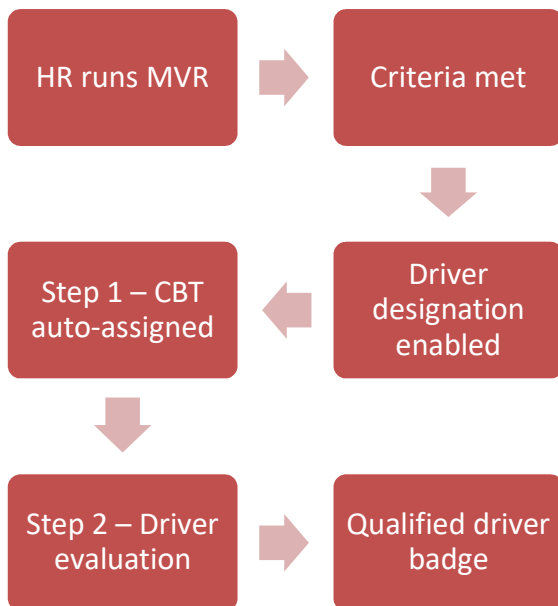


1 OPEN TASKS [View](#)

12/10/23
Please complete a 90-day New Hire evaluation for Matthew Augustine.

ISS LEAK SEALERS Qualified Drivers

Workflow ensures all requirements are met:



Home / Employees / Katizu Gayo


Katizu Gayo  **Driver Training: Qualified Driver**







START Supervisory Training Mentor

Title: HSE Regional Manager

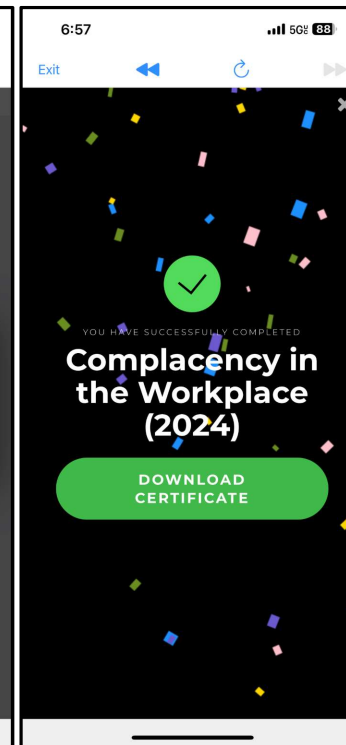
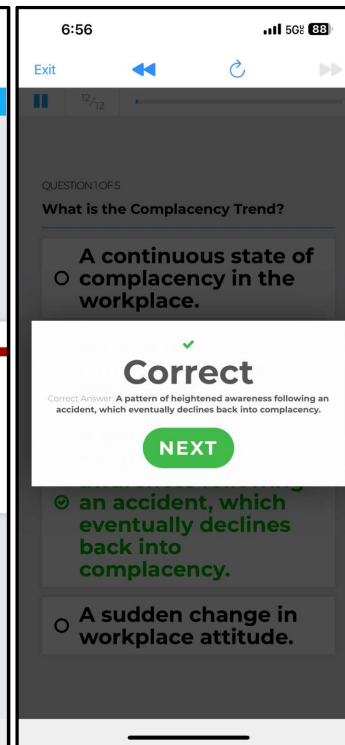
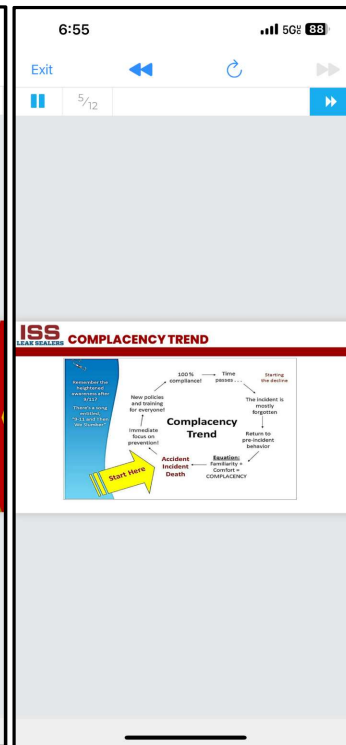
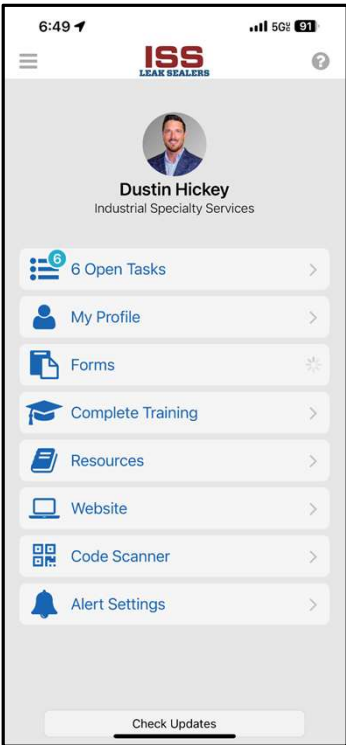
- ✓ Driver Training: Step 1 of 2 (CBT Module)
- ✓ Driver Training: Step 2 of 2 (Driver Evaluation)

1. *New hire onboarding*
2. *Driver training*
3. *Technician competency passports*
4. *Small tools training → CBT → Practical*
5. *Weekly Micro Training*
 - *Relevant, timely, consistent*
 - *Drip vs splash*
 - *Issued to employees 1x per week.*
 - *Short bursts of small, manageable pieces for better absorption & retention!*

 TRAINING

-  **Training Status Report**
Lookup the training status for each employee.
-  **Group Training**
Complete a training session for a group of employees.
-  **Group Training History**
Review completed group trainings and view details.
-  **One-Off Trainings**
Force training to be completed immediately, regardless of an employee's status.
-  **Trainings**
View or edit a training title or requirements.
-  **Form to Trainings**
Map form fields to a training completion.

ISS LEAK SEALERS Weekly Micro Training



Employee Statements

- Done via mobile app
- “Employee” vs. “witness”

The need for questions to guide the interview:

- Can you tell me about your work?
- How do we usually perform this task?
- Were there any barriers to performing...?

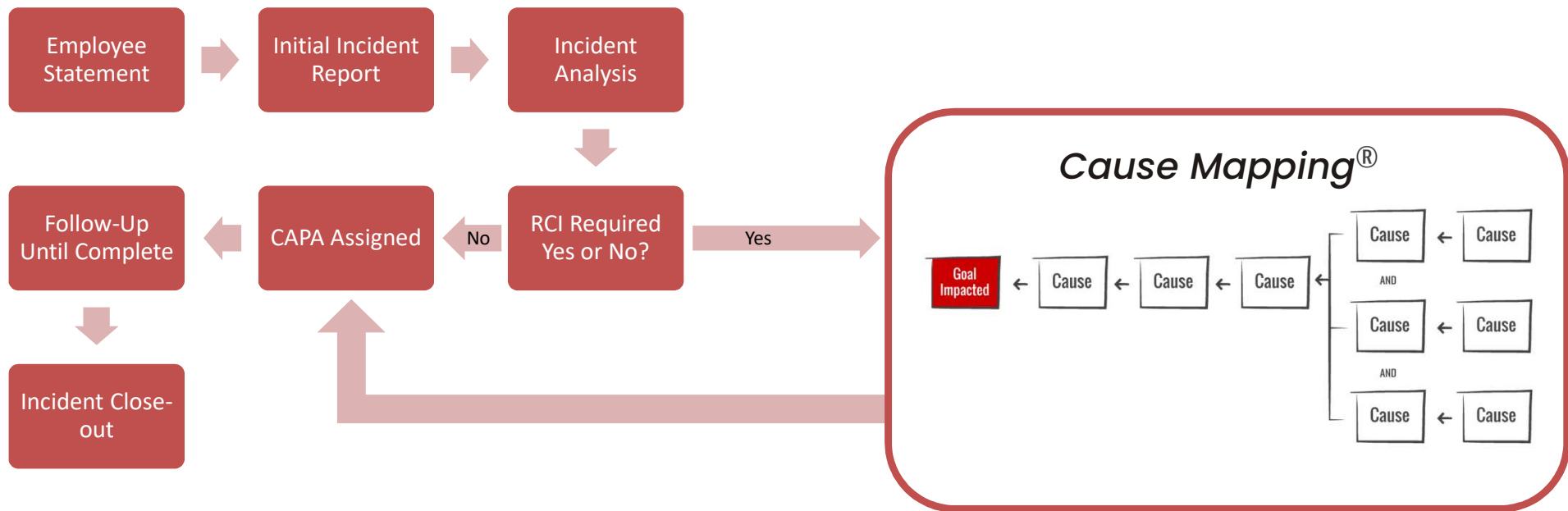
Seeking to understand.

Focus is learning how it failed vs. what/who failed.



ISS LEAK SEALERS Incident Reporting

Built-in workflow ensures things occur properly.



System logic for “scheduled tasks” auto-assigns audits, by job position, based on policy requirement for frequency:

- Jobsite Audits (1x/week)
- Shop Audits (varies by location)
- MSRs (Management Safety Reviews)
 - Ops Managers
 - Branch Managers
 - HSE Managers
 - SME (Subject Matter Experts)
 - Vice Presidents
 - CEO/COO

CAPA functionality, tracking to closure.

The screenshot displays the ISS LEAK SEALERS auditing software interface, which includes several key components:

- Management Safety Review (MSR) Summary:** A sidebar on the left provides a quick overview of the audit, including the date (April 9, 2023), location (Branch), and status (Completed).
- Safety Processes:** A central table lists various safety processes with their respective completion status (e.g., "PROTECTIVE WEAR: (HARD HAT/SAFETY GLASSES) 100%", "FALL PROTECTION: 100%").
- Environment / Housekeeping:** A detailed form at the top right shows findings such as "CLEAR TRAVEL PATHS: Travel paths to and from work area free of hazards or mitigation is in place." and "At Risk" status. It includes notes, follow-up actions (e.g., "Resolved by Christopher Landers on 4/18/24"), and a signature.
- Other Audit Forms:** Additional forms are visible, such as "HAZID" (Hazard Identification) and "HAZOP" (Hazard and Operability Study), which track specific safety hazards and their mitigation.

ISS LEAK SEALERS Equipment Inspections



- *Bright orange hang tag as visual reminder to perform inspection.*
- *QR code for quick accessibility.*
- *No need to find and print a hard copy of the form, complete it by hand, then scan and email for retention.*
- *Brings you straight to the inspection sheet in the mobile app.*

ISS LEAK SEALERS Vehicle Inspections

- Reporting ensures inspections are being completed.
- Any deficiency triggers auto-notification to company's fleet manager.

wiper blades	Satisfactory
Headlights (Operational, lens not cracked)	Satisfactory
Brake Lights (Operational, lens not cracked)	Satisfactory
Signal Lights (Operational, lens not cracked)	Satisfactory
Parking Lights (Operational, not cracked)	Satisfactory
Regulatory Stickers/Decals	Satisfactory
Tires (Tread depth, cuts, gouges, pressure)	Unsat
Wheels (Lug bolts not	Satisfactory

SUMMARY

Unsat Description(s) Right Front Tire Wearing



Item marked Unsat Yes

I certify that I have completed the above referenced

Weekly Vehicle Inspection Report Add +

FOR 'Item marked Unsat' is checked

NOTIFY EMPLOYEES WHOSE Name is Joey Broom

VIA Email & Mobile + Updates

ISS LEAK SEALERS "Good Catches"

- Ease of use in reporting.
- Tied to employee recognition & incentive.

7:41 5G 82%

Exit

Report No. 35114516

Started January 3 2024, 8:53:13am

Submitted January 3 2024, 9:08:43am

Uploaded January 3 2024, 9:08:43am

Duration 15 minutes

Location was not collected for this report.

GOOD CATCH Export PDF

GENERAL DETAILS

Reported By Justin Flower

Supervisor Keith Parker

Branch Deer Park, TX

Project [REDACTED]

Client [REDACTED] Refinery

Acumatica Project ID 19556

Date January 3rd 2024

Time 8:00 AM

Task / Activity Set up on 10" pipe and cut/bevel, then install isolation plugs once pipe is removed for EPC to weld flanges on pipe.

Work Area OMCC Tank Farm

7:41 5G 82%

Exit

Time 8:00 AM

Task / Activity Set up on 10" pipe and cut/bevel, then install isolation plugs once pipe is removed for EPC to weld flanges on pipe.

Work Area OMCC Tank Farm

Specific Location West of T-510

Description of Near Miss / Good Catch Justin walked a job with operations before receiving a permit for to make to pipe cuts and to install/monitor isolation plugs. During the job walk Justin noticed that there was not a blind installed at one of the tie in points coming from the tank and no lock on the valve that was in the seated position with a "Do Not Operate" tag hanging.

Follow-Up Actions He immediately stopped the job walk to inform the crew of ISS & EPC there was an issue. Justin made a great catch stopping the job to have EPC install a blind and for operations to make the proper corrections on the EIL lockbox before the permit was issued for work to continue per ISS SSOP.



Potential SIF Classification Failure of Critical Safety Process (Confined Space/LOTO/Safe Work Permit/Hot Work)

ISS Industrial Specialty Services (ISS) 2,098 followers 1mo

Today we are recognizing Justin Flowers for his Good Catch! While Justin was performing a job walk to receive a permit, he noticed that there was no blind installed at one of the tie-in points coming from the tank, and a lock was missing on the valve that was in the seated position with a "Do not operate" tag hanging. The job walk was immediately stopped, and the crew was notified of the issue. Operations made the proper corrections on the lockbox, and a blind was later installed so that a permit could be issued for work to continue.

Justin embodies the essence of what it means to be an ISS/LeakSealers employee – a commitment to ensuring the well-being of our team and the integrity of our operations. Thank you, Justin, for exemplifying excellence in safety and for your invaluable contribution to our workplace culture.

#safetyfirst #StopWorkObligation #GoodCatch

2024 with Colin Bickerstaff and 2 others

You and 33 others 5 comments · 4 reposts

ISS LEAK SEALERS Acknowledgments

*Safety flashes, company memos, important announcements.
Ensure acknowledgment, even during absences.*

DETAILS	
Name	Safety Flash: Near Miss - Fall Prevention
Created	February 16, 2024 11:29am
To	Department is Unassigned, Fabrication, Operations, Operations 1, Operations 2, Sales, or Sa
Attachments	Fall Prevention Near Miss.pdf
Must Open?	Yes
Signature Required?	Yes
Sent By	Briana Salinas
Success	100%
Ongoing?	Not Ongoing ⓘ

SAFETY FLASH – Near Miss

Preliminary Incident Summary:

What?
Near Miss

- An employee was tasked with picking up tools that were left behind on a scaffold.
- The employee climbed on a mid rail of a guardrail system of a structure, attempting to reach inside of a scaffold that was outside of the structured platform without the use of a Fall Arrest PPE.
- This resulted with a suspension for violating workplace safety practices.

Hazard Type
Fall Prevention

Investigation Findings:

- The employee's risk tolerance was high and when prompted, by the condition, chose the risk over utilizing Stop Work Obligation.
- Crew and Supervisor did not effectively plan the task including demobilization of the tools.

Required Actions:

- Never raised yourself/climb on a scaffold or structured handrail.
- Fall Arrest PPE is always required when you are transitioning from a complete working platform to a uncomplete working platform, per approval form the site.
- Hazard Recognition training will be assigned to all employees to gain knowledge on hazard identification.
- ISS Management, reiterate ISS's expectation to utilize Stop Work Obligation when change occurs.

ISS LEAK SEALERS



ISS LEAK SEALERS Management of Change



Industrial Specialty Services
 4900 Railroad Street
 Deer Park, TX 77536
www.isservices.com
 (346) 471-1786

Date: 12/4/2023

To: Operations/HSE

Revised Hot tap & Line stop SSOP's.

During a safety issue investigation ISS discovered that our Hot SSOP's was not clearly defined for the operation of the Nut Runner per the manufacture's recommendations.

ISS_SSOP_HTO02

5.5: A Filter, Regulator, & Lubricator unit (e.g., 'Air Caddy TM') is to be used with regulator & gauge to make sure the correct psi is flowing through the nut runner. Maximum of 90 psi. ISS To supply

8.20 Attach the drive motor and the air supply. The drive motor must not exceed the maximum air pressure of 90 psi as per the manufacturer's recommendation. A lower air pressure is acceptable if the operation of the drive motor is not compromised. Make sure the nut runner trigger button/handle is configured to face up or down.

8.20.1 Caution: Keep body stance balanced and firm. Do not overreach when operating this tool. Anticipate and be alert for sudden changes in motion, for reaction torques, or forces during start up and operation. The operator should change posture during extended tasks, which can help avoid discomfort and fatigue.

ISS_SSOP_LS007 have been revised as well

With the same wording as above.

Please make sure that all Hot tap techs have the correct equipment for making these hot taps:

- Air Caddy (Attached)
- Flow Control Valve (Attached)
- Trigger configuration on Nut Runner is installed in the correct position.

Sam Ellis

Global VP/SME Hot tap and Line stop

258 Sent

257 Acknowledged

1 Not Acknowledged

DETAILS

Name	Revisions to SSOPs for Nut Runner Operations
Created	December 4, 2023 8:59am
Attachments	Revised SSOPs for Nut Runner Operations.pdf
Must Open?	Yes
Signature Required?	Yes
Sent By	Dustin Hickey

ISS LEAK SEALERS KPIs – Reporting & Trending

- Auto-recurring reports to identify what's been done vs not done.
- Track and trend lagging indicator performance.
- Track and trend leading indicator activities.
- Advanced filtering

% Employee <input type="text" value="All"/> Field Supervisor (F#) <input type="text" value="All"/> Client notified? <input type="text" value="All"/> Property Damages <input type="text" value="All"/> Describe the lighting at the time of the incident. <input type="text" value="All"/> Study Part Affected <input type="text" value="All"/> Obtain Medical Attention needed? <input type="text" value="All"/> Date # <input type="text" value="Enter search term..."/> Title <input type="text" value="Enter search term..."/> Other <input type="text" value="Enter search term..."/> Other <input type="text" value="Enter search term..."/> What was the employee doing just before the incident occurred? <input type="text" value="Enter search term..."/> Other <input type="text" value="Enter search term..."/> Facility Address <input type="text" value="Enter search term..."/> Time Employee Began Work <input type="text" value="No Start"/> <input type="text" value="No End"/> Date of Birth <input type="text" value="All"/> Last Time / Rechecked / Notified End Date <input type="text" value="All"/> Date/Time <input type="text" value="No Start"/> <input type="text" value="No End"/> Signature Date <input type="text" value="All"/> Check if employee trained in an emergency room <input type="text" value="All"/> Check if there are physician-recommended work restrictions <input type="text" value="All"/> Report # <input type="text" value="A.S. 15475"/> <input type="button" value="Help/Advanced Search"/> <input type="button" value="Reset/Advanced Search"/>	Employee involved <input type="text" value="All"/> Occupation / Title <input type="text" value="All"/> Branch <input type="text" value="All"/> Property Damage Cause <input type="text" value="All"/> Describe the weather conditions at the time of the incident. <input type="text" value="All"/> Vehicle Movement <input type="text" value="All"/> Other Involved <input type="text" value="Enter search term..."/> Client Name <input type="text" value="Enter search term..."/> Site Name / Location <input type="text" value="Enter search term..."/> Property Damage - Other <input type="text" value="Enter search term..."/> List Machines / Tools in use <input type="text" value="Enter search term..."/> Other <input type="text" value="Enter search term..."/> Describe AIG Given and by whom <input type="text" value="Enter search term..."/> Reason(s) why Non-Occupational? <input type="text" value="Enter search term..."/> Time Notified <input type="text" value="No Start"/> <input type="text" value="No End"/> Time Notified <input type="text" value="No Start"/> <input type="text" value="No End"/> Date/Time <input type="text" value="No Start"/> <input type="text" value="No End"/> When did death occur? <input type="text" value="All"/> Signature Date <input type="text" value="No Start"/> <input type="text" value="No End"/> Check if employee hospitalized overnight as an inpatient <input type="text" value="All"/> Check if the incident resulted in impaired respiration, an amputation, or loss of an eye (notify OSHA within 8 hours) <input type="text" value="All"/> Only include locked equipment? <input type="text" value="No"/>	Additional Employee(s) involved <input type="text" value="All"/> Status <input type="text" value="All"/> Type of incident <input type="text" value="All"/> Type of work <input type="text" value="All"/> Nature of injury / illness <input type="text" value="All"/> Was the IIR Occupational Medicine Provider Contacted? <input type="text" value="All"/> BM Name <input type="text" value="Enter search term..."/> Contact Name <input type="text" value="Enter search term..."/> Unit / Area <input type="text" value="Enter search term..."/> Property Damaged Cause - Other <input type="text" value="Enter search term..."/> USE PPE in use <input type="text" value="Enter search term..."/> Other <input type="text" value="Enter search term..."/> Name of Physician / Health Care Professional <input type="text" value="Enter search term..."/> Date of incident <input type="text" value="All"/> Date Notified (if Different) <input type="text" value="All"/> Time Notified <input type="text" value="No Start"/> <input type="text" value="No End"/> Date/Time <input type="text" value="No Start"/> <input type="text" value="No End"/> Signature Date <input type="text" value="All"/> # of Witnesses <input type="text" value="All"/> Check if there was a loss of consciousness <input type="text" value="All"/> Check if OSHA is a non-occupational injury / illness <input type="text" value="All"/>	Less than 90 days? <input type="text" value="All"/> Vehicle Incident Type <input type="text" value="All"/> Rehabilitation Type <input type="text" value="All"/> Major Illness Type <input type="text" value="All"/> Was Employee examined by site medical personnel? <input type="text" value="All"/> Exit <input type="text" value="Enter search term..."/> Phone # <input type="text" value="Enter search term..."/> Accumulative Project ID <input type="text" value="Enter search term..."/> Type of Work - Other <input type="text" value="Enter search term..."/> Describe Incident <input type="text" value="Enter search term..."/> Other <input type="text" value="Enter search term..."/> Facility Name <input type="text" value="Enter search term..."/> Time of incident <input type="text" value="No Start"/> <input type="text" value="No End"/> Date of hire <input type="text" value="All"/> Last Time / Rechecked / Notified Start Date <input type="text" value="All"/> Date/Time <input type="text" value="No Start"/> <input type="text" value="No End"/> Signature Date <input type="text" value="All"/> Checked <input type="text" value="All"/> Check if prescription strength medication was given for treatment <input type="text" value="All"/> Hours/Time <input type="text" value="All"/>
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QUESTIONS



ISS
LEAK SEALERS

SAFE. SMART. RELIABLE.