2024 Annual Performance Report Webinar

September 30, 2025

CENTER FOR OFFSHORE SAFETY

Today's Presenters

Julia FitzGerald, COS

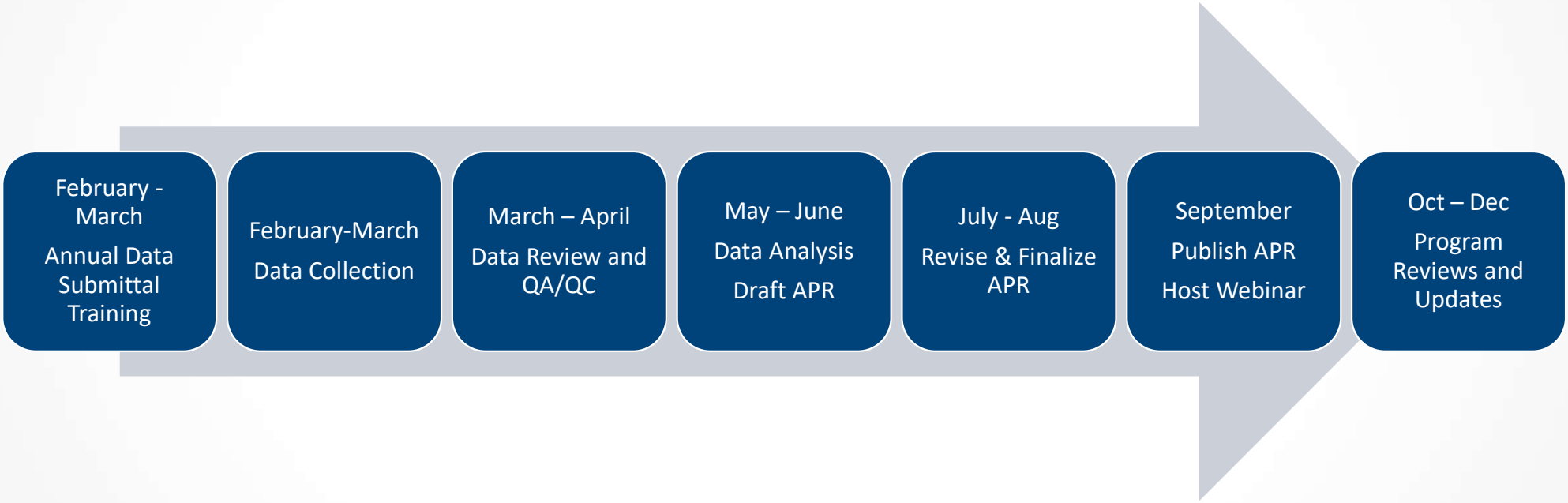
Christy Lafferty, Oceaneering

Brior LeCompte, Independent

Claude Allen, Shell

Brandy Harrington, COS

COS APR Timeline



CENTER FOR OFFSHORE SAFETY

Center for Offshore Safety

SEMS Audit and Certificate Committee

- Audit Planning and Reporting
- Corrective Action Plans
- Evaluation & Improvement of SEMS

Data Collection, Analysis, and Reporting

- Annual Performance Report
- Safety Shares

Good Practice Development

- Learning from Normal Work
- Developing and Managing Procedures
- Leadership Site Engagement

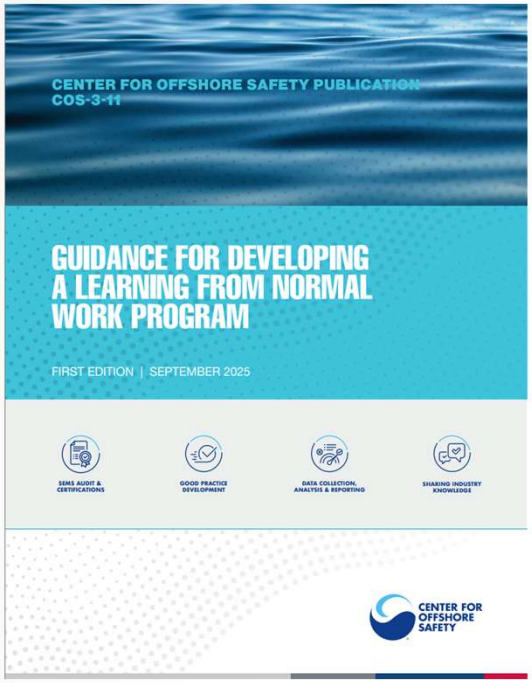
Sharing Industry Knowledge

- COS Forum
- Committees & Subcommittees
- Webinars & Summits

COS Members

78%

2024 U.S. OCS Work Hours



COS SAFETY SHARE

WHAT WILL WE DO TO PREVENT THIS FROM HAPPENING HERE?

EMPTY SHAKER HOUSE DELAYS SHUT DOWN OF DRILLING FLUID DISCHARGE

What happened?

Rig was running a 10 3/4" tieback. Vendor flowback tool was rigged up and a mix pump was lined up to roll over the hole and back to a dedicated active pit. Main driver for not being on the trip tank was due to the vendor vent line returns routing through the standpipe bleed off and reverse circulation line that enters the flowline downstream of the trip tank valve. Overboards were open as per plan to discharge cuttings to sea.

The Driller observed losses and gain/loss alarm was noted. The Mud Loggers also observed the losses and called the drill shack. Driller contacted the Derrickhand via radio, who had already observed the losses on a screen in the pit room where he was stationed.

From the point the losses were noted to the point that the Derrickhand made it to the shaker house, approximately 34 bbls of synthetic based mud had been discharged to sea.

What went wrong?

Note at the time of the event the Derrickhand was assigned to cover between the pit room and the shakers as the Shakerhand had been called to the drill floor to assist with another task. Shakerhand left while the shaker was in operation.

Upon arrival in the Shaker house, the Derrickhand observed that shaker number 2 had tripped and then re-started the shaker.

Why did it happen?

Procedure states a person should be present at all times, when the Shakerhand was called away, there should have been a "Stop Work" and risk assessment made to determine risk of leaving shakers.

Electrical switch failed due to corrosion.

What areas were identified for improvement?

Communicate expectation to have a person in the shaker house at all times when circulating the shakers. Signage was made and reviewed with the crews. Signage was placed in the shaker house and the drill shack.

Install quick closing valves. Install audio and visual alarms for shaker shutdown.

Replace the shaker switches on all shakers.

2025006

NOTICE: COS Safety Shares are based entirely on data voluntary reports by U.S. Operators and Contractors and are use it at your own risk. API has not verified the accuracy of reported data and makes no representation or warranty, either express or implied, or assumes any liability, with respect to the accuracy, completeness, or utility of the information contained herein. API is not undertaking to meet the duties of employers, manufacturers, or suppliers to warn and properly train and equip their employees or others exposed to health and safety risks.

CENTER FOR OFFSHORE SAFETY

How is COS data used?

CENTER FOR OFFSHORE SAFETY

Overview

Safety Performance Indicators (SPI) Program

Learning from Incidents & Events (LFI) Program

Safety Performance Indicators – US OCS

Operator:

- **SPI 1-10**
- **Work Hours**
- **ALL incidents – operator and contractor - within 500m of lease**
- **SPI 5 for Operator owned facilities and equipment**

Contractor:

- **SPI 1-4, 6-10 Incidents outside 500m or for non-COS Operators**
- **SPI 5 for Contractor owned facilities and equipment**

SPI 1 is the frequency of incidents resulting in one or more of the following:

A. Fatality
B. Five or more injuries
C. Tier 1 Process Safety Event
D. Level 1 Well Control Incident
E. ≥ $1MIL damage
F. Oil spill to water ≥ 10K gallons

SPI 2 is the frequency of incidents resulting in one or more of the following:

A. Tier 2 Process Safety Event
B. Collision resulting in ≥ $25K damage
C. Mechanical Lifting or Lowering resulting in one of more of the following:
   - One – four injuries
   - ≥ $25K damage
   - Tier 2 Process Safety Event
   - Dropped load over live process equipment
D. Loss of Station Keeping
E. Lifeboat, life raft, or rescue boat event
F. Level 2 Well Control Event

SPI 3 is the number of SPI 1 and SPI 2 incidents that involved failure of equipment as a contributing factor.

SPI 4 is a crane or personnel/material handling operations incident

SPI 5 is the percentage of planned critical maintenance completed on time

SPI 6 is the number of work-related fatalities

SPI 7 is the frequency of Days Away from Work / Restricted Work / Job Transfer (DART) injuries and illnesses

SPI 8 is the frequency of Recordable Injuries and Illnesses (RIIF)

SPI 9 is the number of oil spills to water ≥ 1 gallon

SPI 10 is the severity potential and actual results of incidents involving a dropped object

CENTER FOR OFFSHORE SAFETY

Learning from Incidents and Events (LFI)
What incidents should be reported as LFI?

All US OCS SPI 1 and SPI 2 Incidents

- Following the completion of any incident investigations, you should submit an LFI for each SPI 1 or SPI 2 incident.

- Only 1 form per incident – usually submitted by company that did the investigation.

High Value Learning Events (HVLE)

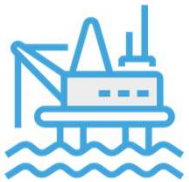
- Incidents that didn't rise to the level of an SPI 1 or SPI 2, but that still provide valuable insight and learnings.
- Near misses / Close calls!

- **US OCS**
- ***US Onshore/State Waters***
- ***International***

Learning from Incidents & Events

Incident Description	• Activities, conditions, and acts • Number of people involved and their roles
Corrective Actions	• Actions taken at time of incident to mitigate consequences and secure people, equipment, and facility
Lessons Learned	• Actions taken as a result of incident to prevent recurrence at all locations

LFI - Areas for Improvement (AFI)



Physical Facility, Equipment, and Process

- Design or Layout of a Facility or Individual Piece of Equipment
- Facility or Equipment Material Specification, Fabrication and Construction, or Quality Control
- Facility or Equipment Reliability
- Instrument, Analyzer and Controls Reliability

Administrative Processes

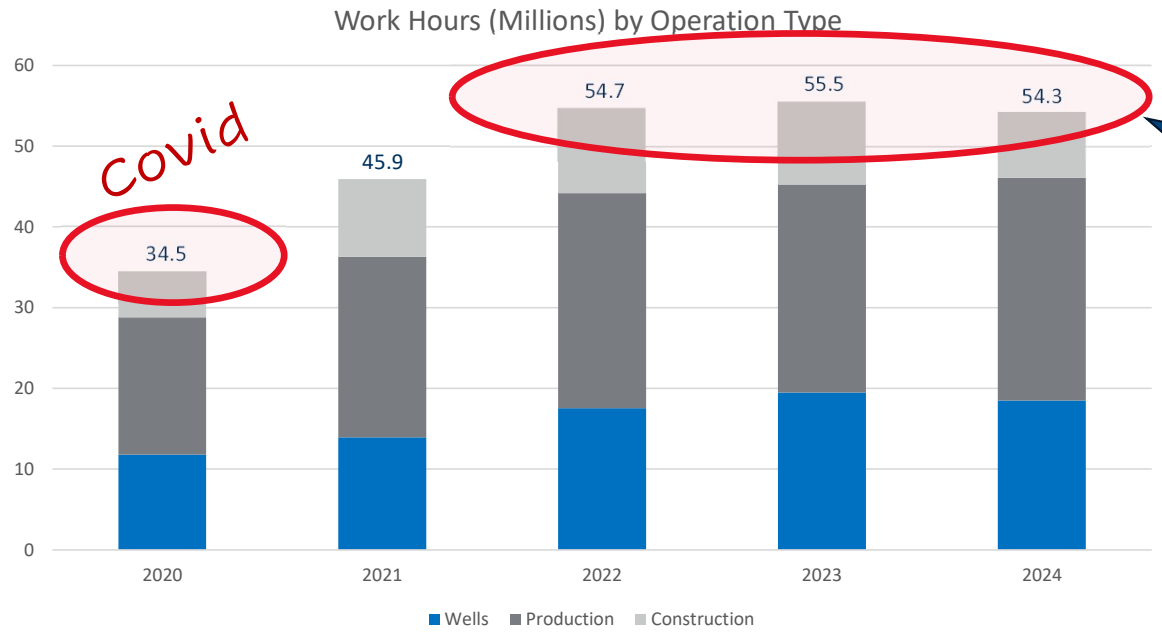
- Risk Assessment and Management
- Operating Procedures or Safe Work Practices
- Management of Change
- Work Direction or Management
- Emergency Response

People

- Personnel Skills or Knowledge
- Quality of Task Planning and Preparation
- Individual or Group Decision Making
- Quality of Task Execution
- Quality of Hazard Mitigation
- Communication

SPI Data
2024 Reporting Year

Work Hours (Normalization Factor)



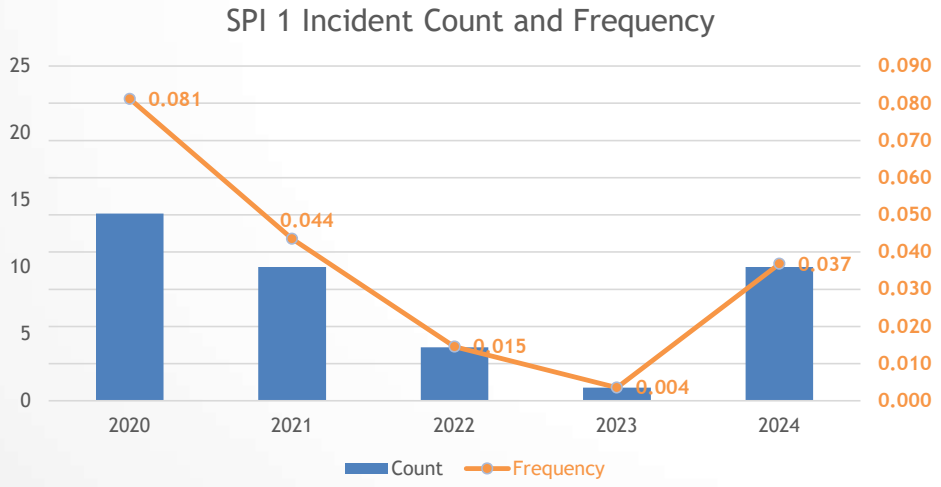
Top 3 years since 2015

SPI 1

	2024
Incidents involving 1 or more fatalities	0
Incidents with injuries to 5 or more	0
Tier 1 Process Safety Events	10
Level 1 Well Control Incidents	0
Incidents resulting in damage ≥ $1MIL	0
Oil spill to water ≥ 238 bbl (10k gallons)	0

SPI 1

	2024
Incidents involving 1 or more fatalities	0
Incidents with injuries to 5 or more	0
Tier 1 Process Safety Events	10
Level 1 Well Control Incidents	0
Incidents resulting in damage ≥ $1MIL	0
Oil spill to water ≥ 238 bbl (10k gallons)	0



Majority of COS Operators reported zero SPI 1 incidents

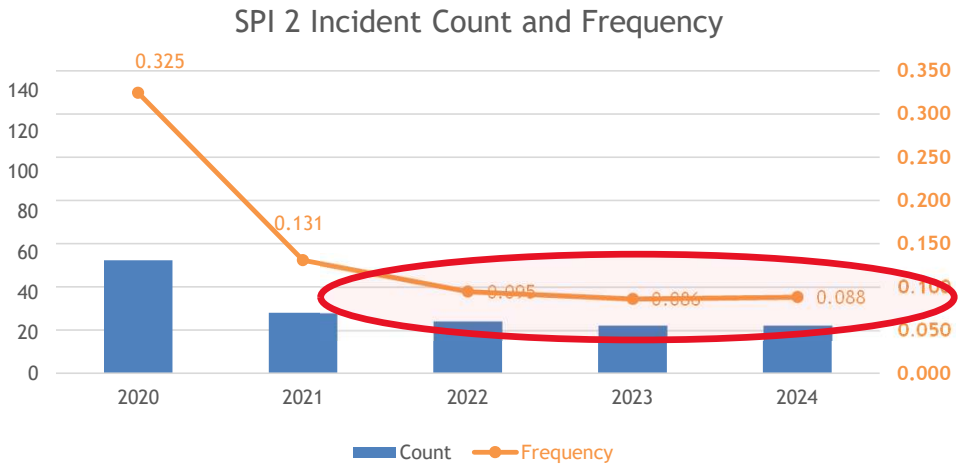
CENTER FOR OFFSHORE SAFETY

SPI 2

	2024
Tier 2 process safety events	12
Collision damage ≥ $25,000	3
Mechanical lifting incidents	10
Loss of station keeping	0
Lifeboat, life raft, rescue boat	0
Level 2 well control incidents	0

SPI 2

	2024
Tier 2 process safety events	12
Collision damage ≥ $25,000	3
Mechanical lifting incidents	10
Loss of station keeping	0
Lifeboat, life raft, rescue boat	0
Level 2 well control incidents	0



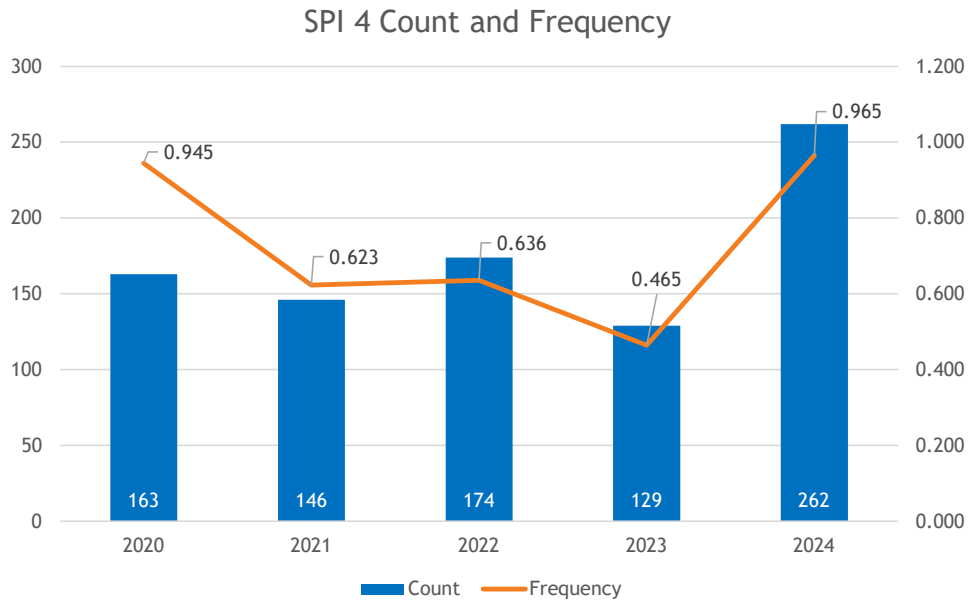
Third year running with fewer than one SPI 2 incident for every 2MIL work hours

FOCUS: Mechanical Lifting

Year	# of SPI 4 Incidents	COS Member Work Hours (Millions)	Rate per 200k Work Hours
2020	163	34.5	0.95
2021	146	45.9	0.62
2022	174	54.7	0.64
2023	129	55.5	0.47
2024	262	54.3	0.97

SPI 4 – ALL lifting incidents:

"If you report it to BSEE, report it to COS"



SPI 2C (subset of SPI 4)

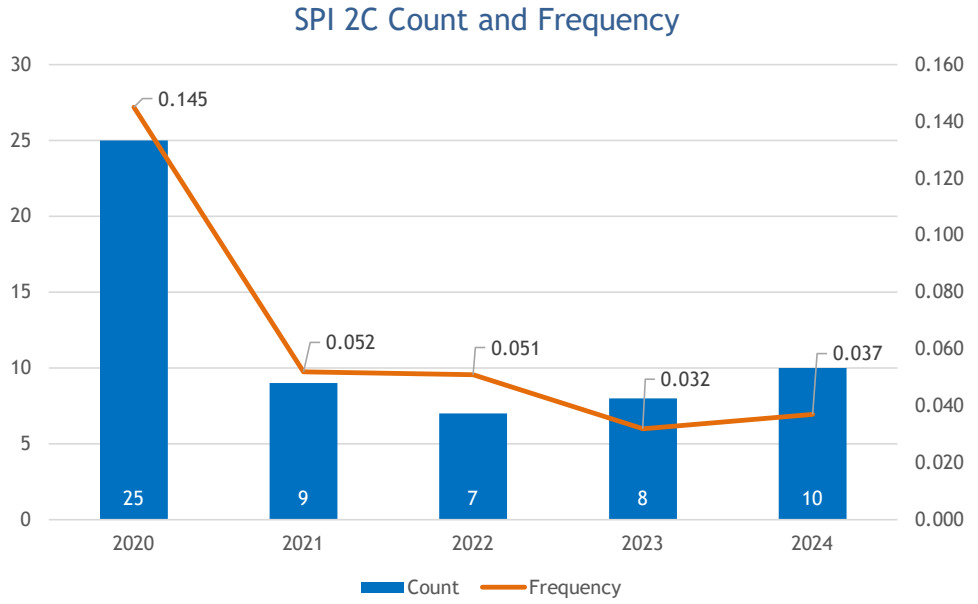
- *1 – 4 Injuries*
- *≥ $25,000 damage*
- *Tier 2 Process Safety Event*
- *Dropped load over live process equip.*

FOCUS: Mechanical Lifting

Year	# of SPI 2C Incidents	COS Member Work Hours (Millions)	Rate per 200k Work Hours
2020	25	34.5	0.145
2021	9	45.9	0.052
2022	7	54.7	0.051
2023	8	55.5	0.032
2024	10	54.3	0.037

SPI 2C (subset of SPI 4):

- *1 – 4 Injuries*
- *≥ $25,000 damage*
- *Tier 2 Process Safety Event*
- *Dropped load over live process equip.*



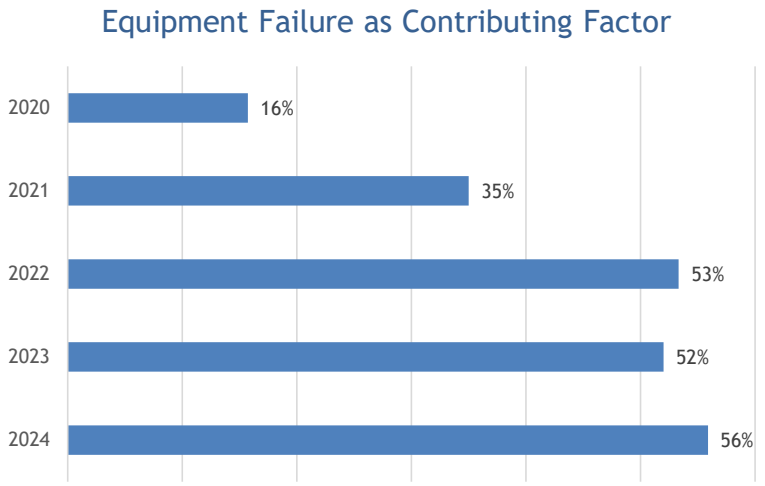
SPI 3

SPI 3 is the number of SPI 1 and SPI 2 incidents that involved failure of one or more pieces of equipment as a contributing factor.

34
- SPI 1 + SPI 2 Incidents

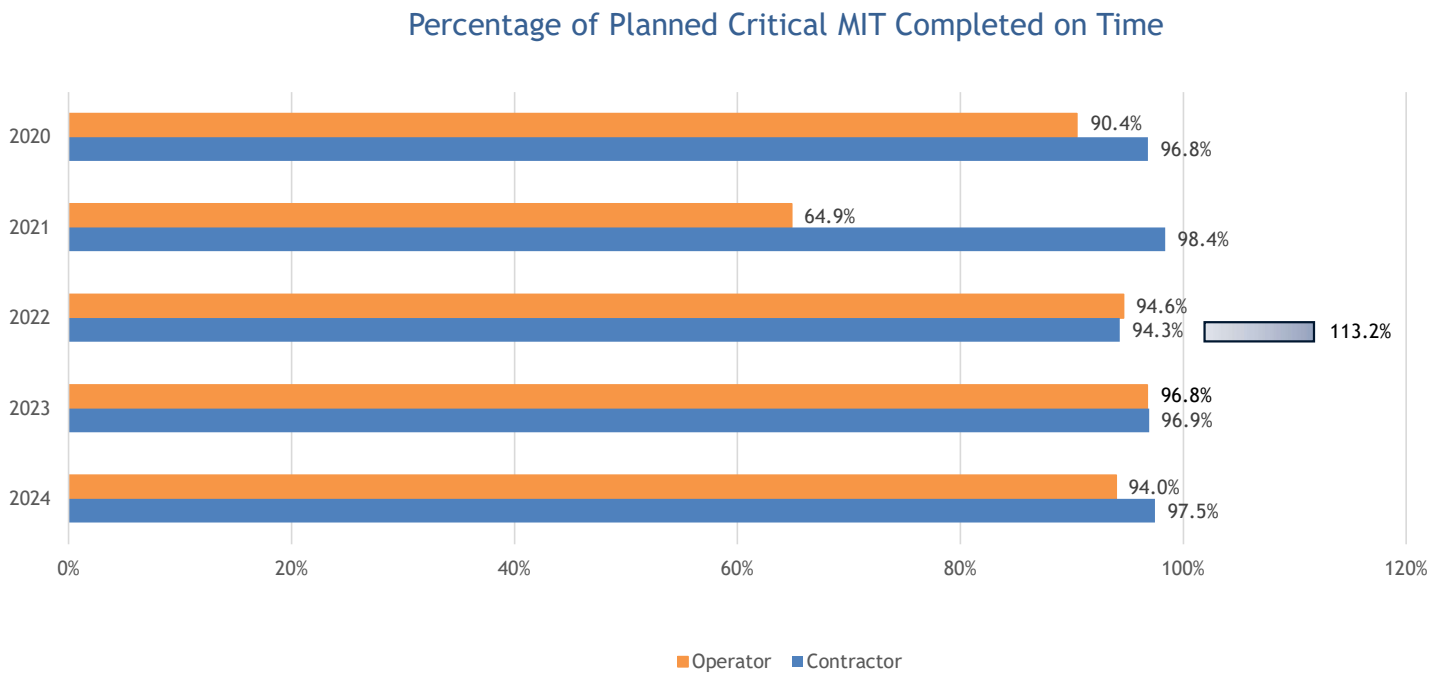
19 (56%)
- cited equipment failure

11 (58%)
- 5 - Process Equipment / Pressure Vessels / Piping
- 6 - Fire/Gas Detection and Fire Fighting Systems



SPI 5

SPI 5 is the percentage of planned critical maintenance, inspection, and testing (MIT) completed on time. Planned critical MIT deferred with a formal risk assessment and appropriate level of approval is not considered overdue.



Hand Injury LFI

INCIDENT DESCRIPTION:

The *[Injured Party (IP)]* and *[Tool Pusher (TP)]* were changing the wireline tool when the TP…asked the winch to ‘hoist up’, creating a 4” gap between the upper C-plate and assembly.

The IP grabbed the C-plate to assist as the TP released the tool, causing the IP’s hand to be caught, breaking a finger and requiring stitches.

Hand Injury LFI

OBSERVATIONS / CORRECTIVE ACTIONS:

IP left the rig floor and reported to the medic. The floor was secured, and a safety stand-down meeting was held to discuss the incident, as well as refocusing on line-of-fire & hand protection.

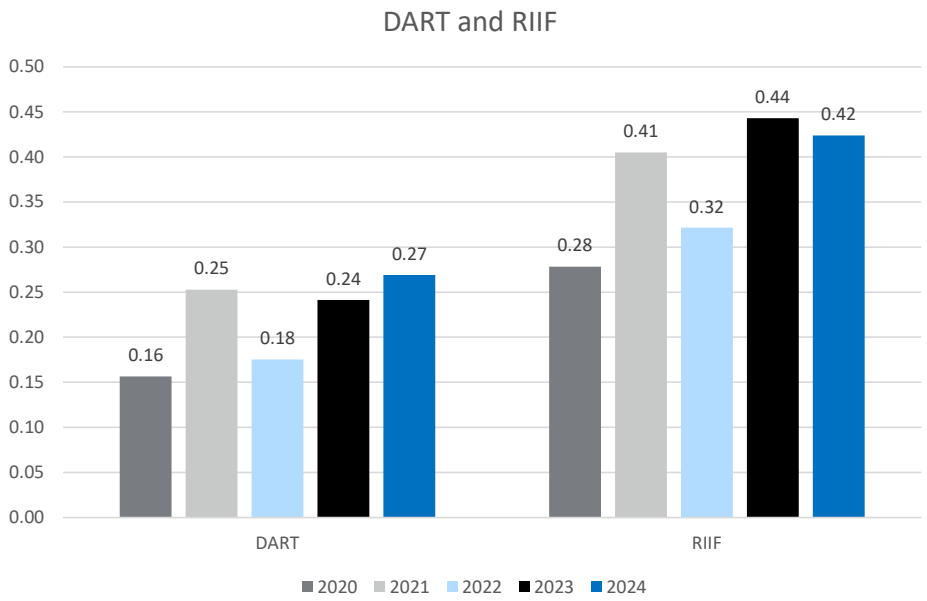
When creating a team for a task it is paramount that the right individuals are selected. In this case, the TP had never completed this operation on a vessel and was uncomfortable with the assignment.

If there are ever questions about the operations, employees are required to stop work. Upon learning the TP had not completed this task before, the IP should have stopped work. Transition to work meetings are critical to ensuring the success of an operation, and supervisors are encouraged to hold active meetings communicating the steps and risks associated with the task.

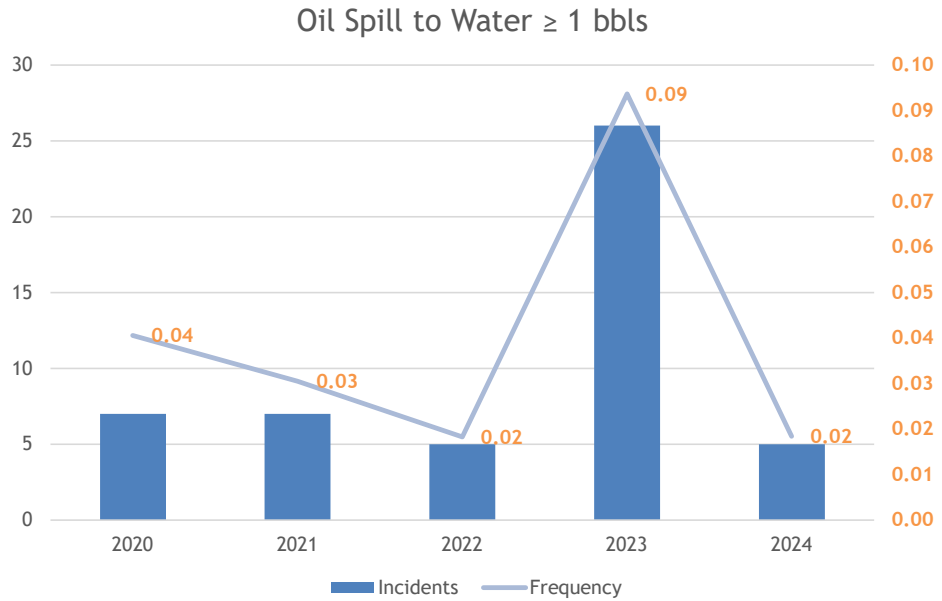
SPI 6-9

SPI 6 is number of work-related fatalities
SPI 7 is the frequency of days away from work, restricted work, and job-transfer injuries and illnesses (DART)
SPI 8 is the frequency of recordable injuries and illnesses (RIIF)
SPI 9 is the frequency of oil spills to water ≥ 1 barrel

SPI 7 & SPI 8

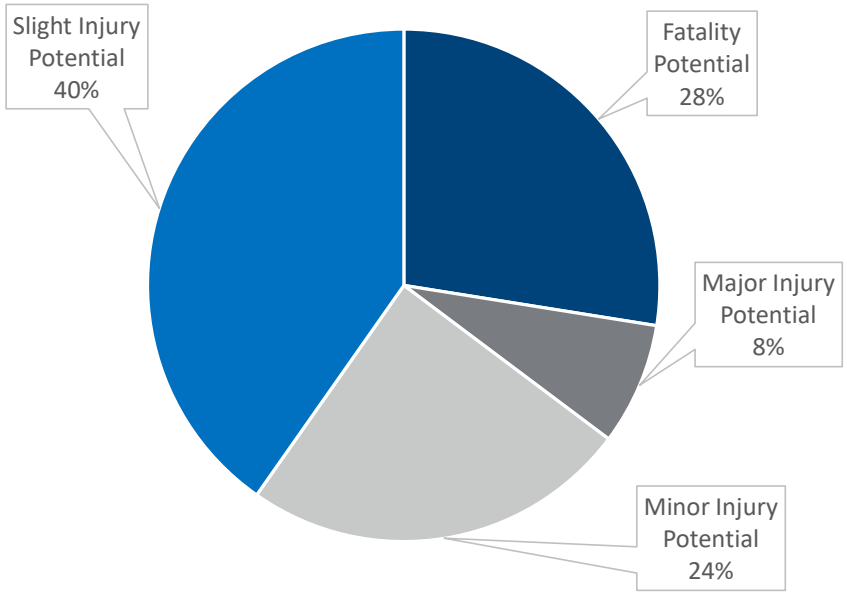


SPI 9



SPI 10

SPI 10 is the severity *potential* and *actual results* of incidents involving a dropped object



298 Dropped Object Incidents

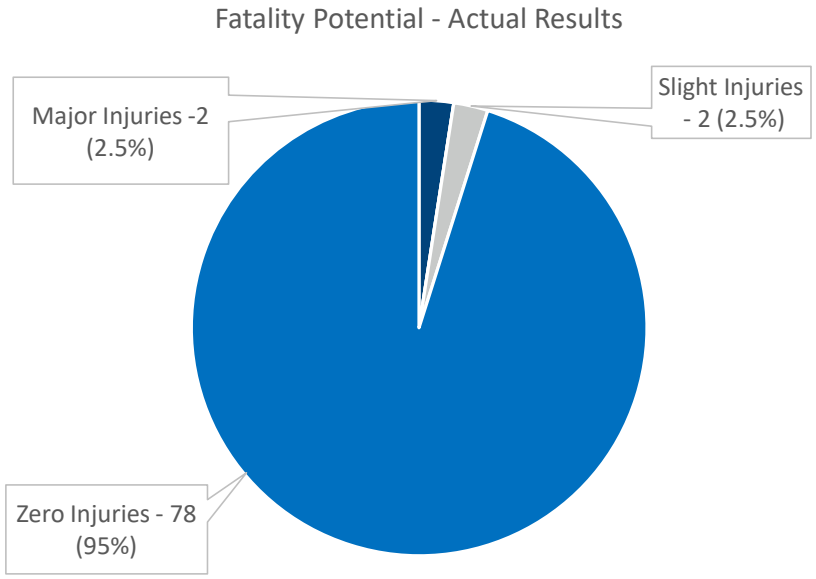
- *Potential* Fatality – 82
- *Potential* Major Injury – 23
- *Potential* Minor Injury – 73
- *Potential* Slight Injury - 120

What are the *actual* results of these incidents?

SPI 10

SPI 10 is the severity *potential* and *actual results* of incidents involving a dropped object

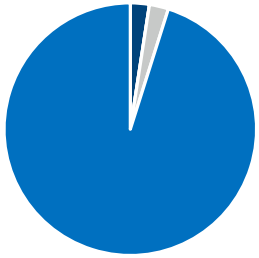
82 Incidents with Fatality ***Potential***



SPI 10

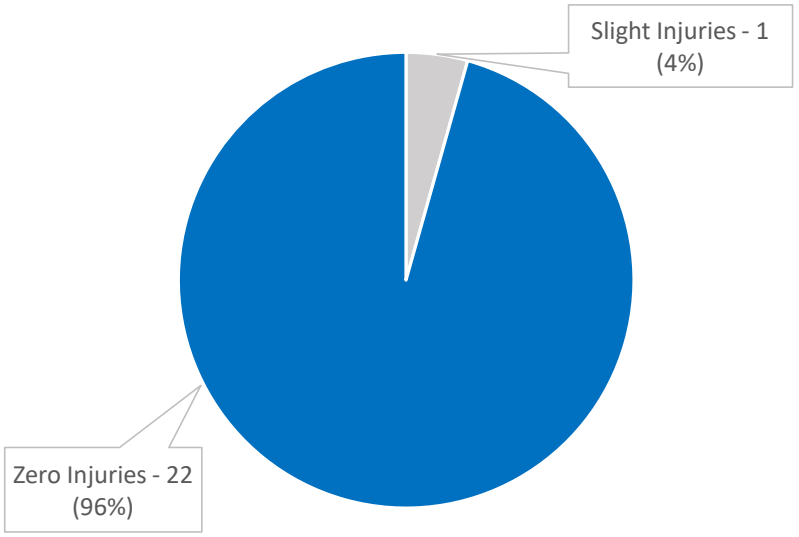
SPI 10 is the severity *potential* and *actual results* of incidents involving a dropped object

Fatality Potential - Actual Results



23 Incidents with Major Injury ***Potential***

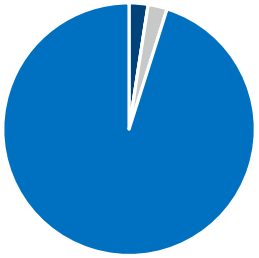
Major Injury Potential - Actual Results



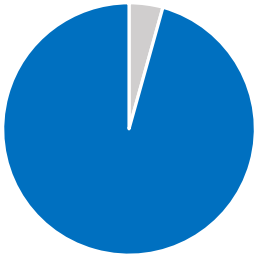
SPI 10

SPI 10 is the severity *potential* and *actual results* of incidents involving a dropped object

Fatality Potential - Actual Results

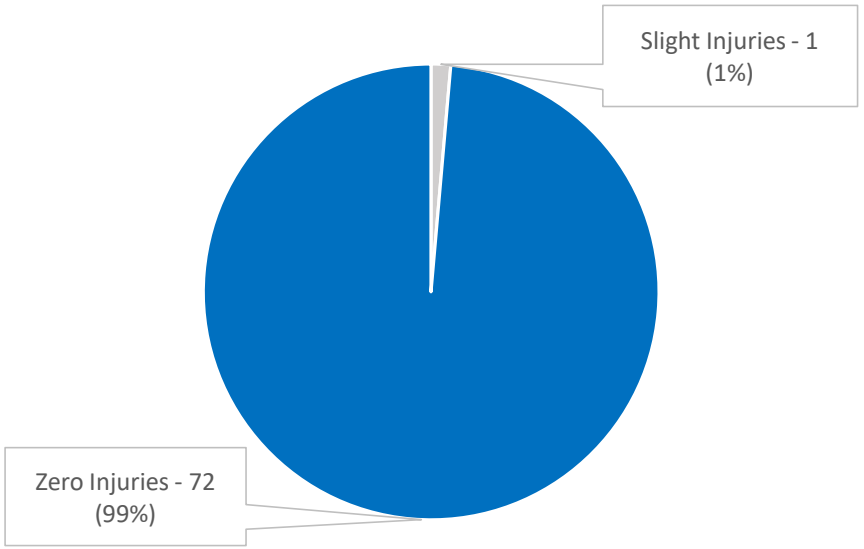


Major Injury Potential - Actual Results



73 Incidents with Minor Injury ***Potential***

Minor Injury Potential - Actual Results

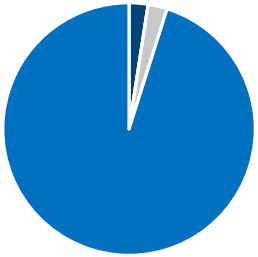


SPI 10

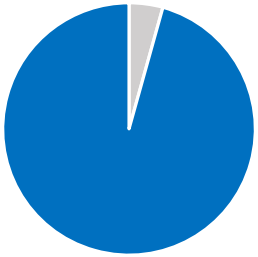
SPI 10 is the severity *potential* and *actual results* of incidents involving a dropped object

120 Incidents with Slight Injury ***Potential***

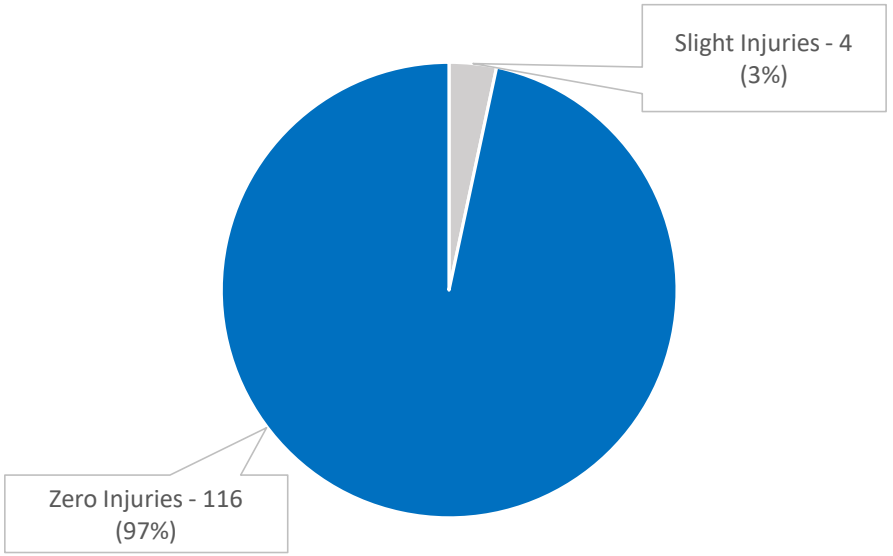
Fatality Potential - Actual Results



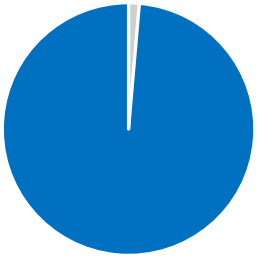
Major Injury Potential - Actual Results



Slight Injury Potential - Actual Results



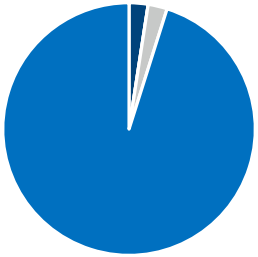
Minor Injury Potential - Actual Results



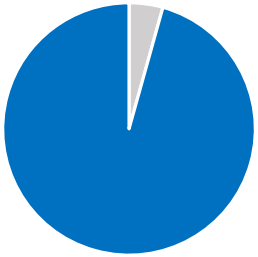
SPI 10

SPI 10 is the severity *potential* and *actual results* of incidents involving a dropped object

Fatality Potential - Actual Results

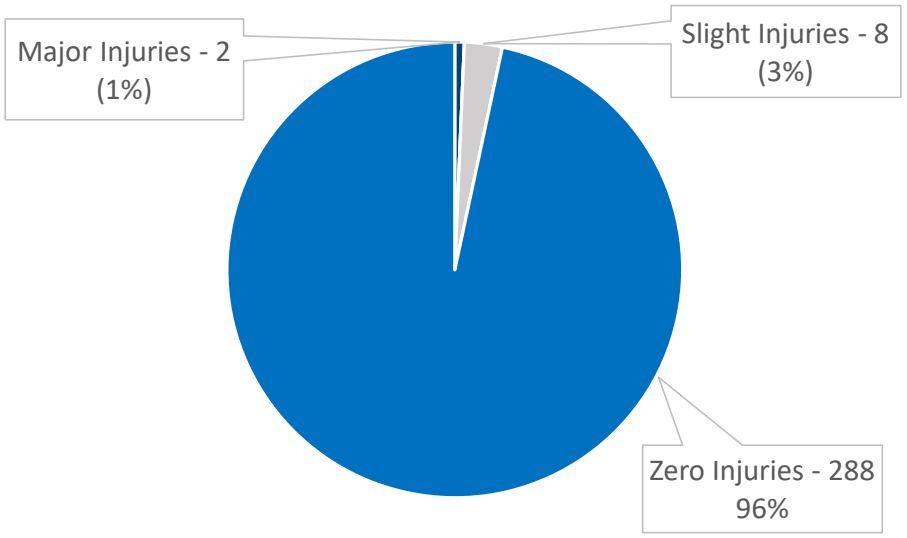


Major Injury Potential - Actual Results

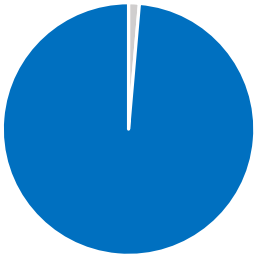


298 Dropped Object Incidents – Combined Actual Results

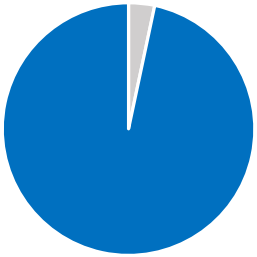
Dropped Objects - Actual Results Combined



Minor Injury Potential - Actual Results



Slight Injury Potential - Actual Results



Dropped Object LFI

INCIDENT DESCRIPTION:

Construction crew had rigged up on a pipe support with air tuggers, straps, and beam clamps.

When they were trying to get the pipe support into place by using the air tugger,…the weight of the pipe support was completely on the beam clamps, *[and]* the beam clamps slipped off causing the load to be dropped overboard. The pipe support did not hit/strike anything when it was lost overboard.

The job was shut down until a safer and more efficient way to get the pipe supports in place *[was]* identified.

Upon review of the JSA, there were no steps for moving or *[installing]…*pipe supports. The Company tugger checklist states, for Tie-Down/Welding, "WELDING is the preferred choice for securing tuggers. Any other methods (chain-falls, come-a-longs, cable, etc.) must be assessed and accepted by the Company's Construction Foreman and Engineer."

Dropped Object LFI

OBSERVATIONS / CORRECTIVE ACTIONS:

Construction crew updated their method of lifting remaining supports to include cutting a hole in the vertical I-beam to install a shackle for attaching rigging.

Moving and/or installing pipe supports is now required on a JSA when that work is done as opposed to being generically referenced along with other construction activities.

The crew did not follow the Company tugger checklist requirement relative to "other methods" for securing tuggers that it *[should be]* assessed and accepted by the Company's Construction Foreman and Engineer.

Poor rigging choices were made in the planning process before this work started. The choker rigging on a vertical I-beam was left open-ended, relying on the beam clamp as a stopper.

1. A strap could have been choked on the horizontal beam and half-hitched to the vertical for a stable and secure lift.
2. A hole should have been cut in the vertical beam for shackle attachment.
3. A pad eye should have been installed on the vertical beams during fabrication for safer rigging attachment. The rigging up of the tugger and associated equipment should also have been assessed and accepted by the Company's Construction Foreman and Engineer.

LFI Data
2024 Reporting Year

Data Conundrum - Details vs Accuracy

2013 – 2023 Reporting Years

11.2.2 ***Administrative Processes: Operating Procedures or Safe Work Practices***
Select if Operating Procedures or Safe Work Practices were or will be ADDED, UPDATED, or MADE ACCESSIBLE as a result of this incident.

Do **NOT** select this AFI if operating procedures or safe work practices were in place and adequate, but **NOT FOLLOWED**. In that instance, refer to ***People*** categories below.

2024 Reporting Year

6. ***Operating Procedures or Safe Work Practices***
Select if Operating Procedures or Safe Work Practices were highlighted for improvement as a result of this incident.

Reason(s) for selecting this AFI:

- No operating procedure(s) for this activity
- Operating procedures were not available or accessible
- Operating procedures were available, but out-of-date / inaccurate
- Operating procedures were available and up-to-date but not followed
- Safe work practices were not available or accessible
- Safe work practices were available, but out-of-date / inaccurate
- Safe work practices were available and up-to-date but not followed
- Permit to work should have been sought for this activity but wasn't
- Permit to work granted but not followed for this activity
- Other (please specify)

CENTER FOR OFFSHORE SAFETY

Top 5 AFI 2023RY vs 2024RY

2023 Reporting Year	2024 Reporting Year
• Operating Procedures or Safe Work Practices (44%)	• Quality of Task Planning and Preparation (61%)
• Facility or Equipment Design or Layout (28%)	• Quality of Task Execution (57%)
• Risk Assessment and Management Process (28%)	• Personnel Skills or Knowledge (39%)
• Facility or Equipment Reliability (19%)	• Individual or Group Decision Making (39%)
• Personnel Skills or Knowledge (19%)	• Operating Procedures or Safe Work Practices (26%)
	• Facility or Equipment Design or Layout (26%)
	• Quality of Hazard Mitigation (26%)

CENTER FOR OFFSHORE SAFETY

Areas for Improvement (AFI)

- Top 5 AFI (US OCS) 2024
  - Quality of Task Planning & Preparation
  - Quality of Task Execution
  - Individual or Group Decision Making
  - Personnel Skills and Knowledge
  - Quality of Hazard Mitigation
  - Operating Procedures or Safe Work Practices
  - Design or Layout of Facility or Individual Piece of Equipment

3-way tie

- Top 5 SEMS Elements (US OCS) 2024
  - Safe Work Management and Safe Work Practices
  - Risk Assessment and Risk Controls
  - Procedures
  - Asset Design and Integrity
  - Knowledge and Skills

Procedures LFI

INCIDENT DESCRIPTION:

A fluid retention cap on the second end of a jumper spool was planned to be removed by a Technician to allow for the top-up of monoethylene glycol (MEG), in accordance with the approved procedure.

The procedure clearly specified that pressure must be bled off prior to cap removal. However, the Technician proceeded to remove the cap without performing the depressurization step.

As a result, MEG under pressure (~8 bar / ~116 psi) was released. A small quantity of MEG contacted the Technician, and the cap—~46 kilograms / ~101 pounds in weight—was forcefully ejected ~2 meters / ~6 feet. It ultimately came to rest against deck equipment. No personnel were injured during the incident; however, three people were in the vicinity.

**Emphasis added*

Procedures LFI

OBSERVATIONS / CORRECTIVE ACTIONS:

Called an all stop and provided treatment as per SDS (wash with water). Technician *[was]* further examined by the Medic.

Indicated line of fire points.

Performed a task risk analysis (TRA) review specific for the change.

Added a hold point for *[the]* Shift Supervisor to allow access to the second end and to ensure pressure was safely bled.

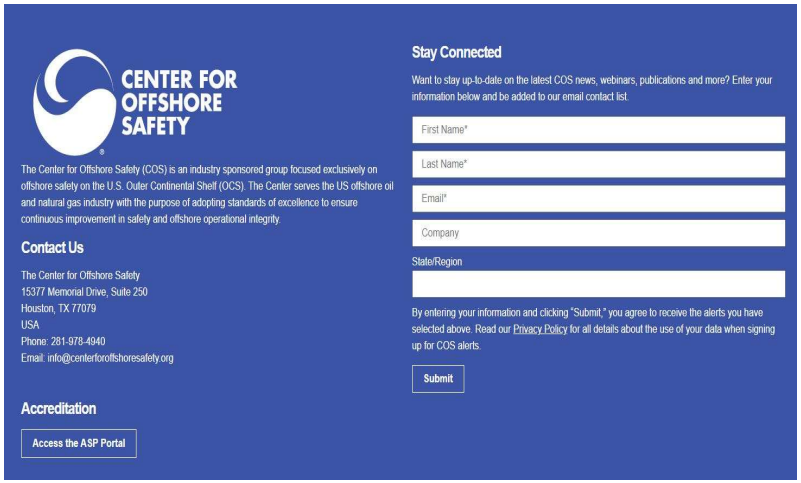
Removed non-essential personnel and *[barricaded]* off areas.

Download the APR:

www.centerforoffshoresafety.org

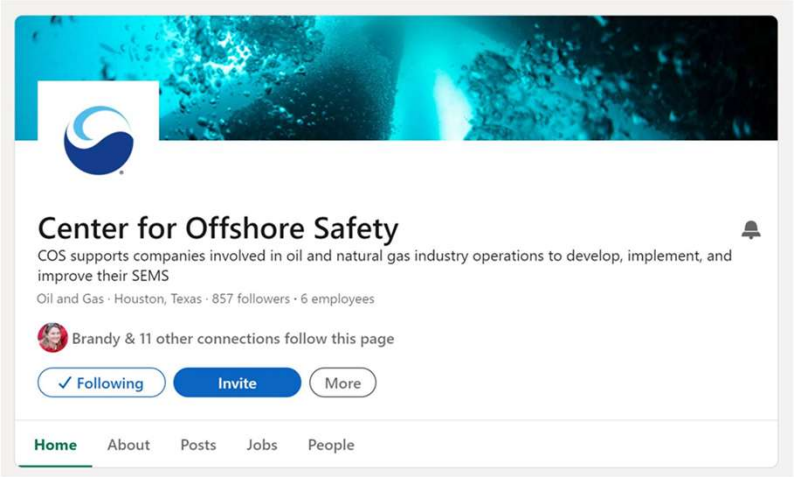
Stay Connected:

centerforoffshoresafety.org



Scroll to the bottom of the homepage

linkedin.com



JOIN COS

Annual Membership Fee
- API Members - $0
- Non-API Members - $5000

For Additional Information:

Russ Holmes –
holmesr@centerforoffshoresafety.org

Julia FitzGerald –
fitzgeraldj@centerforoffshoresafety.org

Brandy Harrington –
harringtonb@centerforoffshoresafety.org

Questions?

Thank you!

CENTER FOR OFFSHORE SAFETY