

Person: Daniel Caldwell (danielc@jlab.org)

ORG: PERFAS

Status: Approved

Date: 03/30/2021 02:00:34 PM

JSA
THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY
12000 Jefferson Avenue
Newport News, VA 23606
Phone: (757) 269-7100

Notable Events 113764

See EH&S Manual Chapter 5200 Appendix T1 Event Investigation and Causal Analysis for Instructions

Title of event

[Click here for CATS](#)

Event Title *

FML-21-0302 Right Arm and Shoulder Soreness DART Case

Response Owner *

Rusty Sprouse (sprouse)

Category *

Personnel Safety

Event Location *

08 - Central Helium Liquefier (CHL)

Date of Occurrence

03/02/2021

Time of Occurrence Date Notable Event Report is Due* Time Due

10:00 am

04/15/2021

*The Notable Event Report is due to the ESH&Q Reporting Officer with 30 days of the Initial Fact Finding Meeting unless an extension is requested.

Requirements

Requirement matrix for reference

10 CFR 851 Worker Safety and Health Program

Short Summary of Event and/or Injuries *

A facilities management employee developed right arm and shoulder soreness after assisting a subcontractor repeatedly conduct a manual lift of two large objects from floor to shoulder height, and was thus given work restrictions.

Details of the Event and/or Injuries, including Initial Fact Finding Meeting information: determine the chain of events and timeline

On Tuesday, March 2, 2021, a Jefferson Lab employee developed muscle soreness of the right shoulder and forearm after assisting a subcontractor conduct manual lifts multiple times. The employee was assigned to serve as an ODH partner for the subcontractor, who was removing and reinserting filter elements from two air compressor housing units in CHL2 Building 8. The task involves manually removing the filter elements from shoulder height, placing them on the floor, doing the work, and then reinserting the elements to original position. The subcontractor typically assigns one person for this work and is able to accomplish it without issue.

The Lab employee noted that the work the subcontractor was doing appeared to be challenging, and volunteered to assist, as it required heavy units to be lifted from the floor to approximately shoulder height. The first units lift was uneventful, however the second unit required several adjustments, which led to the employee and subcontractor having to make a total of five lifts (two full lifts of the equipment - one for each unit - and three adjustments for the second unit).

During this process, the employee noticed his shoulder starting to fatigue. As the day passed, his shoulder began losing mobility and he began to experience pain in his forearm with movement. As the soreness gradually increased throughout the workday, the employee informed his supervisor, who then informed OCCMED. The following day, March 3, the employee had a phone consultation with OCCMED, after which it was decided that no medical treatment was necessary at the time. The employee returned to work under restriction to avoid tasks that require his right hand to be higher than shoulder height. OCCMED followed up with the employee on March 4 to reassess.

The only medical treatment the employee required was over-the-counter medication. The employee did not require outside medical treatment, and the employee states that the pain has decreased each day since the incident.

Immediate Corrective Actions

Causal Analysis

Judgement of Need *

The potential for changed conditions, i.e., multiple lifts of the equipment from floor to shoulder height, was not considered nor planned for by the Subcontractor.

Risk Code * **External Report?**

DOE Cause Code

A4: Management Problem, B3: Work Organization & Planning LTA, C8: Job scoping did not identify special circumstances and/or conditions

Corrective Action(s)

Corrective Action *

Revise language in all preventive maintenance contracts to state: "All subcontractors need to ensure that they provide the appropriate manpower to complete the preventive maintenance tasks they are contracted to do. No JSA labor is to aid in these activities. If the subcontractor is unable to complete the task with their equipment or assigned personnel, they are to stop work, inform the TR, and resolve the issue with their Management"

Evidence of Completion: revised and implemented standard subcontract language.

Target Date

10/31/2021

Action Owner(s)

Bob Sperlazza (sperlazz)

CATS Number: NE-2021-03

Corrective Action *

Add guidance to Technical Representative training that clearly communicates that TR's are not to assist non-emergent, previously planned subcontractor work activities. If the subcontractor is unable to complete the task with their equipment or assigned personnel, they are to stop work, inform the TR, and resolve the issue with the Subcontractor Management.

Evidence of Completion: updated TR training.

Target Date

10/31/2021

Action Owner(s)

Mitchell Laney (laney)

CATS Number: NE-2021-03

Corrective Action *

Add language to "What FM Personnel Should Know" webpage guidelines that Technical Representatives are not to assist non-emergent, previously planned subcontractor work activities. If the subcontractor is unable to complete the task with their equipment or assigned personnel, they are to stop work, inform the TR, and resolve the issue with the Subcontractor Management. NOTE: this webpage is currently the primary written method for FML to retain and communicate this type of information.

Evidence of Completion: screenshot of updated webpage.

Target Date

06/30/2021

Action Owner(s)

Bob Sperlazza (sperlazz)

CATS Number: NE-2021-03

Corrective Action *

Communicate to TR's that they are not to assist non-emergent, previously planned subcontractor work activities. If the subcontractor is unable to complete the task with their equipment or assigned personnel, they are to stop work, inform the TR, and resolve the issue with the Subcontractor Management. Follow this up with a review at the next monthly TR Safety meeting.

Evidence of Completion: initial communication, meeting agenda and attendance sheet.

Target Date

06/30/2021

Action Owner(s)

Bob Sperlazza (sperlazz)

CATS Number: NE-2021-03

Corrective Action *

Implement daily stretching exercises for each FML Ops and Maintenance work group.

Evidence of Completion: Email from each group lead that they have implemented stretching exercises.

Target Date

04/30/2021

Action Owner(s)

Bob Sperlazza (sperlazz)

CATS Number: NE-2021-03

Root Cause(s)

Root Cause *

The potential for changed conditions, i.e., multiple lifts of the equipment from floor to shoulder height, was not considered nor planned for by the Subcontractor.

Contributing Cause(s)

Extent of Condition Check

Extent of Condition Check Not Applicable

Extent of Condition Check *

See action 1 - "Identify all other appropriate activity hazard analyses (AHA) that require single person maintenance operations by subcontractors"

Risk Code *

External Report? Type *

Does this event involve failed equipment?*

 Yes No

Associated Report Number *

Is there similar equipment in other areas?*

 Yes No

* If yes, assign extent of condition check to the appropriate DSO(s).

Lessons Learned (Confer with Lessons Learned Coordinator)

Witness Accounts

The employee provided a written statement which he submitted to his supervisor and the ESH Representative on 3/4/21.

Records, Documents, Pictures, and Other References

see attachments

Role	Person	Group	Phone	Fact Finding	Investigation Team	Notified
Supervisor of Involved Person(s)	Carroll Jones (jonesc)	FMM	7672	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Involved or Impacted Person	Randy Tarver (rtarver)	FMO	#	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ESH&Q Representative	Tina Johnson (cjohnson)	ESHLD	7611	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TJSO Observer	Steve Neilson (sneilson)	DOE	7215	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Performance Assurance	Steve Smith (sjsmith)	PERFAS	7007	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Performance Assurance	Daniel Caldwell (danielc)	PERFAS		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Department Manager	Rusty Sprouse (sprouse)	FM	7589	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Emergency Notifications Made (Subsequent to the Event)

Emergency Notification	Date	Time	Emergency Notification	Date	Time
Fire, Rescue & Emergency Medical: (9-911)			ESH&Q Reporting Officer: 876-1750	03/03/2021	08:00 xm
Guard Post: x5822; 269-5822			Crew Chief: 630-7050		
Occupational Medicine: 269-7539	03/02/2021	04:00 pm	Industrial Hygiene: 269-7863		
Other:					

Documentation of Findings

Notable Event Number	CATS Number	Lessons Learned Number	ORPS Number
FML-21-0302	NE-2021-03		
Click here for CATS			
NTS Number	CAIRS Entry	DOE Cause Code	ISM Code
	21-0302	A4B3C08	Develop and Implement Hazard Controls

Event Worksheet

Attachments

FML-21-0302 image.jpg

R. Tarver Narrative.pdf

Off Nominal Event Report - Randy Tarver Shoulder and Forearm Soreness 3-2-21.pdf

NE Email Summary (ESH and OccMed) 3.4.21.pdf

Causal Analysis (3.29.21).pdf

Signatures

Investigation Team Members, Affected Division Managers, ESH&Q Reporting Officer: It is asked that you review and provide comments to this document to the Lead Investigator (denoted on Page 1). Your comments will be reviewed and incorporated as appropriate. Thank you for your consideration in this matter.

Investigation Signed By: Steve Smith (sjsmith@jlab.org) on 03/24/2021 02:31:46 PM
Team

Investigation Signed By: Daniel Caldwell (danielc@jlab.org) on 03/24/2021 02:32:20 PM
Team

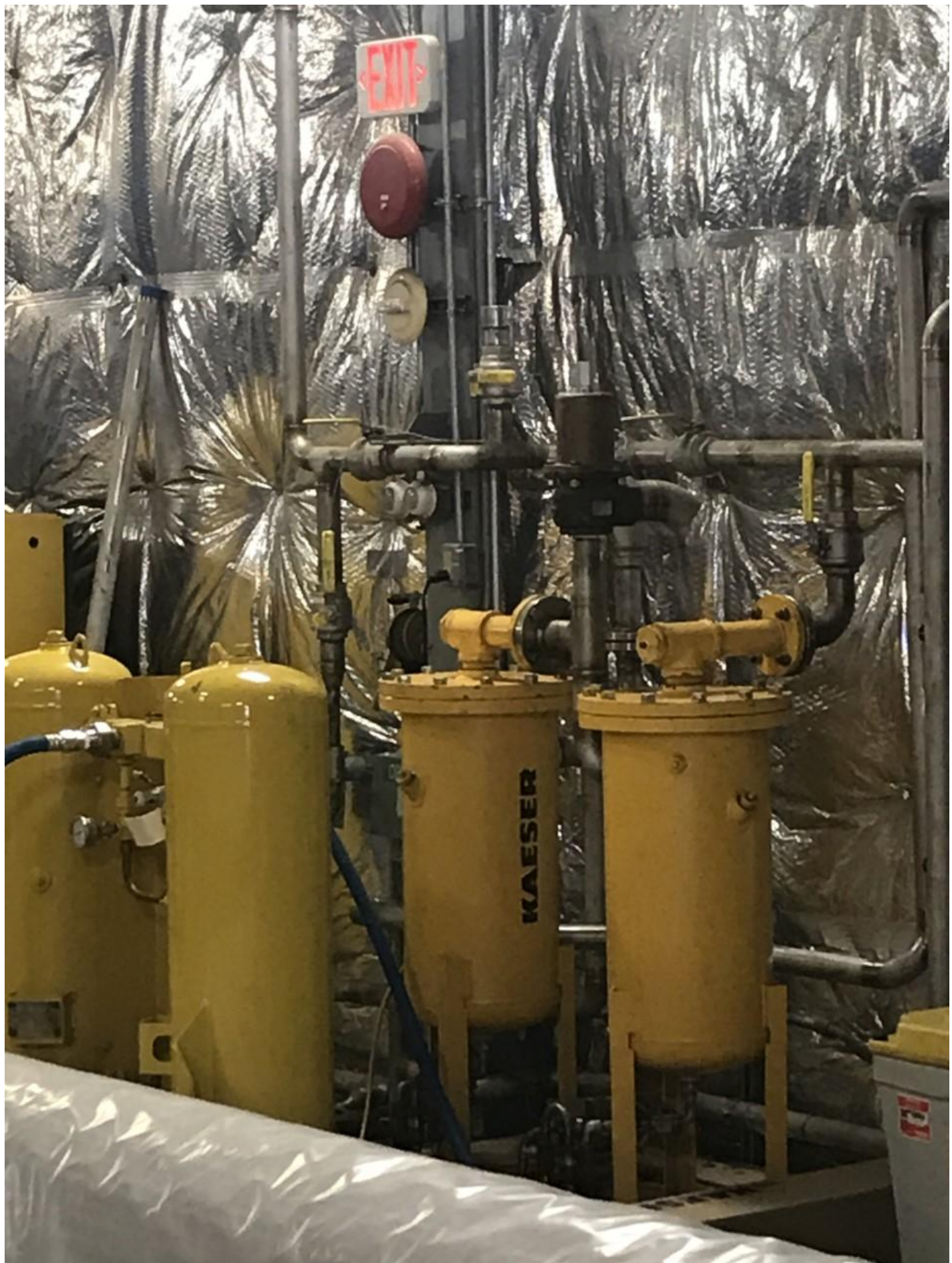
Investigation Signed By: Carroll Jones (jonesc@jlab.org) on 03/30/2021 09:46:53 AM
Team

Associate Signed By: Rusty Sprouse (sprouse@jlab.org) on 03/30/2021 10:09:53 AM
**Director /
Department
Manager**

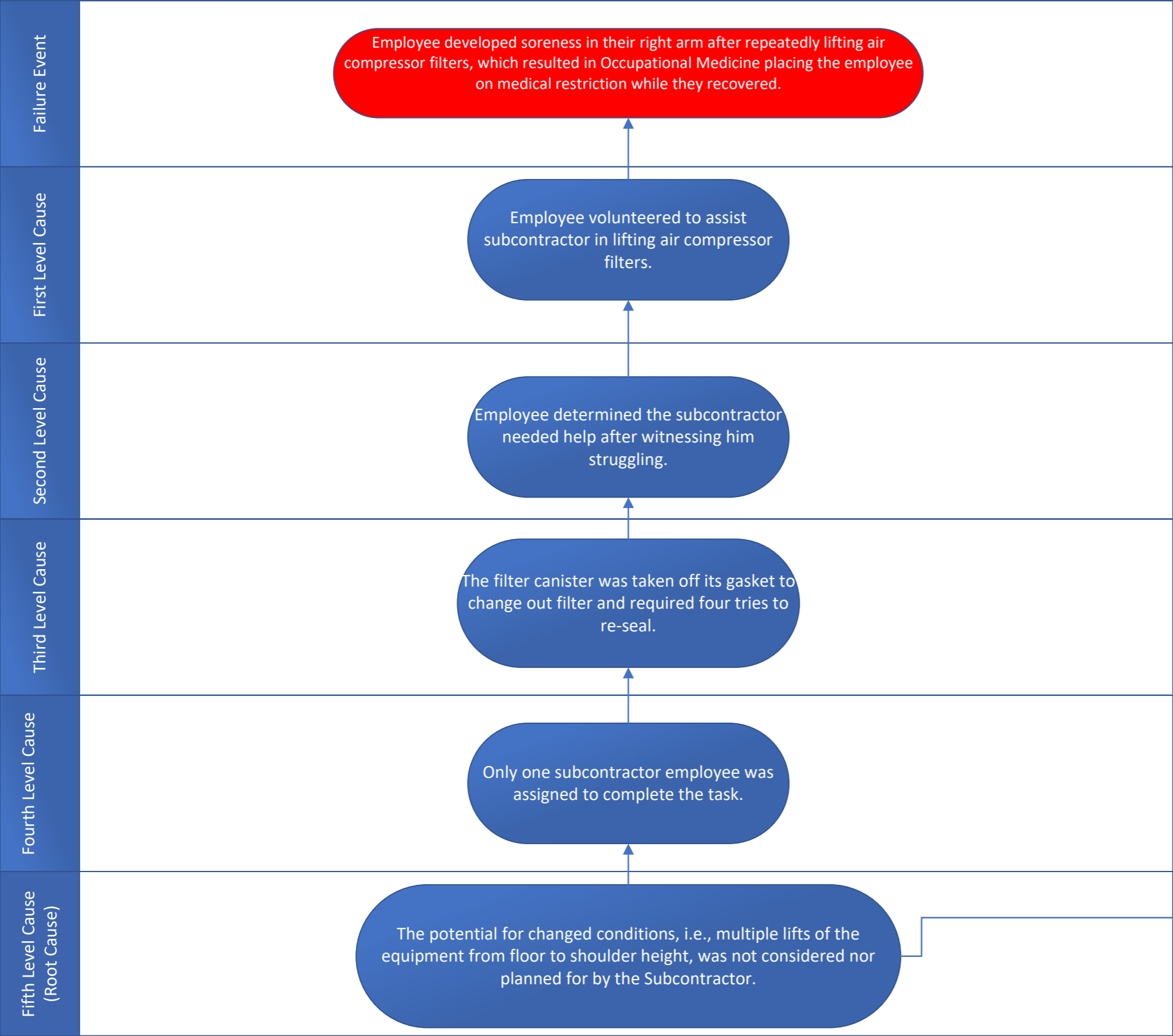
Comments

Discussed the final root cause and actions with team members on 3/29. Took OCCMED comments from 3/22 (email from Dr. Chandler to S Smith) into account and discussed them as a team. Final cause and actions should ensure that both the subcontractor and JSA TR's are informed of and act upon the changes. NOTE: the FML webpage "What FM Personnel Should Know" is currently the best way to put out this type of information to TR's

Steve Smith at 03/29/2021 04:40:00 PM



FML-21-0302 Right Arm and Shoulder Soreness DART Case Cause Analysis



DOE Cause Code: A4 B3 C8
-Management Problem
-Work Organization & Planning LTA
-Job scoping did not identify special circumstances and/or conditions

March 4, 2021

Facilities Management

As per your request, I am writing this letter detailing the incident that occurred on 3/2/21. While serving as 2nd man in an ODH area, for a subcontractor, I noticed that some of the work he was charged to do, by himself, would be very challenging. Therefore, I volunteered my services in an effort to assist him. Part of the duties he was charged with was removing and reinstalling, what seemed to be both relatively heavy (probably would be easier with 2 people v one) as well as cumbersome. In this instance, it may have been true. It appears that my assistance was very much appreciated. The task itself, consisted of removing an element from within a housing. The element was connected to a header (via screwed onto). The two pieces came out as 1 piece and was disassembled outside of the housing and would be reassembled the same way and replaced back within the housing. The removal and replacing is what required assistance being offered. During this process is when I noticed my shoulder starting to fatigue. In part, because we had to reset the 2nd element several times, as it wouldn't seat the gasket properly. As the day would pass, I noticed my shoulder losing mobility and my forearm hurting from sudden movement. Both areas of my right arm region got sorer as the day passed. That was when I decided to notify you of how I was feeling, and to request what's the best way to move forward. I will note, that I perceived the soreness as normal soreness from lifting weights, but wanted to give it some time to subside on its own, which it did. It continues to improve, to this day. However, I was put in contact with Occupational Medicine the first day of the incident, and every day since. Each step of the way, I've expressed my opinions about my progress as what I've previously mentioned above. That's pretty much the incident as I perceive it. I hope this is detailed enough and serves as what you're requesting.

Off Nominal Event Report

Shoulder and Forearm Soreness 3-2-21

1. **Date/time/place of the event** – 3-2-21/approx. 10 AM to 2 PM/Building 8 CHL2 Compressor Room
2. **Name and title of person reporting** – Mechanical Engineer
3. **What was the planned or expected outcome?** – Execution of work without shoulder and forearm soreness
4. **Was the work planned and scheduled and if so when and how?** Work was planned and scheduled with Cryogenics the day before.
5. **What happened that was unplanned or not expected?** Technician assigned to serve as Kaeser ODH partner helped Kaeser technician perform more difficult lifting tasks resulting in shoulder and forearm soreness.
6. **When you started, did you feel you were adequately trained and prepared for this task and if not explain what concerned you?** Technician is trained and physically capable of performing similar mechanical work tasks.
7. **Had you done this task before and if so about how many times?** Technician has worked with Kaeser and other subcontractors providing similar ODH partner support and mechanical assistance.
8. **Were there any contributing factors (was it dark, cold, hot, windy, were you being rushed, were you tired, did you get or have incorrect information)?** The technician just returned to work the day before after a bout with COVID-19.
9. **What, if anything, would you do differently based on this experience?** Wait more time before allowing technicians to perform strenuous tasks after returning from COVID-19 or similar illnesses.
10. **What, if anything, should JSA do differently to keep something like this from recurring?** Wait more time before allowing technicians to perform strenuous tasks after returning from COVID-19 or similar illnesses.

Daniel Caldwell

From: Steve Smith
Sent: Thursday, March 4, 2021 2:09 PM
To: Daniel Caldwell
Subject: Fw: CAIRS/ORPS/NTS Determination: Facilities Management and Logistics Incident Notification (FML-21-0302- Right Arm Soreness Results in Restrictions)

From: Tina Johnson <cjohnson@jlab.org>
Sent: Thursday, March 4, 2021 7:26 AM
To: Johnie Banks <jbanks@jlab.org>; Carroll Jones <jonesc@jlab.org>; Rusty Sprouse <sprouse@jlab.org>; Paul Powers <powersp@jlab.org>; Steven Hoey <hoey@jlab.org>; Bob May <may@jlab.org>
Cc: Smitty Chandler <chandler@jlab.org>; JoAnne Anderson-Newman <jnewman@jlab.org>; Steve Neilson <sneilson@jlab.org>; Steve Smith <sjsmith@jlab.org>
Subject: CAIRS/ORPS/NTS Determination: Facilities Management and Logistics Incident Notification (FML-21-0302- Right Arm Soreness Results in Restrictions)

All,

OSHA Recordkeeping Evaluation: Based on the information below, this case is recordable (DART).

Which work-related injuries and illnesses should you record?

Record those work-related injuries and illnesses that result in:

- ▼ death,
- ▼ loss of consciousness,
- ▼ days away from work,
- ▼ restricted work activity or job transfer,
- ▼ medical treatment beyond first aid. Y

Based on the information obtained so far, this event does not meet ORPS/NTS reportable criteria, however, it is CAIRS reportable and a notable event. The employee's restrictions impact their ability to perform routine job functions.

We will follow the Notable Event Process and we will complete the CAIRS entry within the 7-day time limit. Please call me with any questions or concerns.

Thank you,
Tina

From: Johnie Banks <jbanks@jlab.org>
Sent: Wednesday, March 3, 2021 1:05 PM

To: Smitty Chandler <chandler@jlab.org>; JoAnne Anderson-Newman <jnewman@jlab.org>

Subject: Facilities Management and Logistics Incident Notification

FYI: FM&L Incident Notification

Date/Time of Incident: March 2, 2021 between 9:00 a.m.-12:30 p.m. Occ. Med. was notified at close of business yesterday by his supervisor and spoke with employee this morning.

Place: CHL 2, bldg #8.

Description: Employee states he was assisting a subcontractor remove filter elements from two air compressor housing units and developed muscle soreness after performing this task.

Diagnosis: Muscle soreness of the right arm.

Treatment: Dr. Chandler was consulted and spoke with the employee. No medical treatment rendered at this time.

Work Status: Returned to work with the following work restriction: Must avoid tasks that require right hand to be higher than shoulder height. Work restriction will be reassessed on March 04, 2021.

If you have any questions please feel free to contact me.

Thank you,
Johnie

Johnie B. Banks, CMA, COHC
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Newport News, VA 23606
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[757-269-7881](tel:757-269-7881) fax