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

Notable Events #68889

Event Title: FML-17-0707- Three Foot Long Abandoned Metal Pipe Burning with No Obvious Source

Response Owner: Paul Powers (powersp)
Category: F
Date of Occurrence: 07/07/2017
Event Location: SURA Property/CMSA
Date Notable Event Report is Due: 08/07/2017

Short Summary of Event and/or Injuries

On Friday, July 7, 2017, Jefferson Lab ESH&Q staff discovered a pipe emitting smoke and flames in a wooded area behind the Residence Facility on SURA property. The pipe was discovered during a regular weekly environmental walk through. The Industrial Safety employee called the Fire Protection Engineer who responded to the scene. Upon arrival, the pipe was found smoking but the flame had self-extinguished. The Fire Protection Engineer visually inspected the pipe. The surrounding area was covered with dried leaves and other combustibles. Using a thermal scanning tool the pipe was observed to be cool. The desire to analyze the pipe contents was discussed. Because of the proximity of the pipe to combustibles it was decided to relocate the pipe to the Central Material Storage Area (CMSA), a secure gravel area. The pipe was isolated in an area that would not allow the flames to travel.

Around noon, the pipe was observed on fire and the Fire Department was called for advice. Upon hearing the details, the Fire Department suggested that they should respond. By the time they arrived the flames had again self-extinguished. The Fire Department contacted their Hazardous Materials specialists and instructed FM&L personnel to acquire the supplies to secure the pipe. The NNFD secured the pipe in dry cement and covered it in plastic; FM&L staff secured the area. As a precautionary measure, the ESH&Q Director advised employees not to enter the CMSA for the remainder of the day or contact the Security Guards for information on the hazard if they had to enter the CMSA. The U.S. Army Corps of Engineers (USACE) was notified and are expected onsite in the near future to evaluate the item. Subsequently the USACE indicated they would take responsibility for disposal of the pipe and determine extent of condition.

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

See attached detailed summary.

Casual Analysis

Root Cause

Event No. 1: Failure to Recognize Potential Extent of Hazard. Failure to recognize the burning pipe as a potentially hazardous material or danger. When the Environmental Engineer (EE) and the Safety Engineer (SE) approached the pipe, their immediate response did not include calling 911, according to their SAF100.

Root Cause Corrective Action
Action Owner: Mary Jo Bailey (mbailey) **Due Date:** 09/30/2017

Remind staff on the emergency response procedures with an emphasis on things like recognizing a situation that they can't control, activating a pull station, making a 911 call and securing an area, and not placing themselves in a potentially harmful situation in order to videotape or take pictures.

Evidence of completion: ISM poster

Root Cause Corrective Action
Action Owner: Bill Rainey (wrainey) **Due Date:** 08/30/2017

Develop a Tool Box Talk that incorporates the lessons learned from the event, including activating a pull station, calling 911, recognizing a hazard, exercising a stop work and practicing conservative behavior (not touching unknown substance, have a questioning attitude). Give examples of good responses and not so good response. Be sure to emphasize that when acting on these potential hazards, there should be no fear of retribution.

Evidence of Completion: Lessons Learned

Root Cause Corrective Action
Action Owner: Rusty Sprouse (sprouse) **Due Date:** 09/30/2017

Associate Director's shall hold small group meetings with their organization (line management) using the developed "Tool Box Talk".

Evidence of completion: Copy of the Tool Box presentation and the sign-in sheets

Root Cause Corrective Action
Action Owner: Allison Lung (lung) **Due Date:** 09/30/2017

Associate Director's shall hold small group meetings with their organization (line management) using the developed "Tool Box Talk".

Evidence of completion: Copy of the Tool Box presentation and the sign-in sheets

Root Cause Corrective Action
Action Owner: Joe Scarcello (scarcell) **Due Date:** 09/30/2017

Associate Director's shall hold small group meetings with their organization (line management) using the developed "Tool Box Talk".

Evidence of completion: Copy of the Tool Box presentation and the sign-in sheets

Root Cause Corrective Action
Action Owner: Amber Boehnlein (amber) **Due Date:** 09/30/2017

Associate Director's shall hold small group meetings with their organization (line management)

using the developed "Tool Box Talk".

Evidence of completion: Copy of the Tool Box presentation and the sign-in sheets

Root Cause Corrective Action
Action Owner: Fulvia Pilat (pilat) **Due Date:** 09/30/2017

Associate Director's shall hold small group meetings with their organization (line management) using the developed "Tool Box Talk".

Evidence of completion: Copy of the Tool Box presentation and the sign-in sheets

Root Cause Corrective Action
Action Owner: Rolf Ent (ent) **Due Date:** 09/30/2017

Associate Director's shall hold small group meetings with their organization (line management) using the developed "Tool Box Talk".

Evidence of completion: Copy of the Tool Box presentation and the sign-in sheets

Root Cause Corrective Action
Action Owner: Jianwei Qiu (jqiu) **Due Date:** 09/30/2017

Associate Director's shall hold small group meetings with their organization (line management) using the developed "Tool Box Talk".

Evidence of completion: Copy of the Tool Box presentation and the sign-in sheets

Root Cause Corrective Action
Action Owner: Rhonda Barbosa (rbarbosa) **Due Date:** 09/30/2017

Associate Director's shall hold small group meetings with their organization (line management) using the developed "Tool Box Talk".

Evidence of completion: Copy of the Tool Box presentation and the sign-in sheets

Root Cause Corrective Action
Action Owner: Will Oren (oren) **Due Date:** 09/30/2017

Associate Director's shall hold small group meetings with their organization (line management) using the developed "Tool Box Talk".

Evidence of completion: Copy of the Tool Box presentation and the sign-in sheets

Root Cause

Event No. 2: Moved an unknown hazardous material. There was too much emphasis on controlling/correcting the unusual situation which overshadowed emphasis on diagnosing potential hazard.

Root Cause Corrective Action
Action Owner: Bill Rainey (wrainey) **Due Date:** 09/30/2017

Communicate through the Weekly Briefs that unknown hazardous materials are not to be handled.

Evidence of completion: Copy of weekly briefs

Root Cause Corrective Action

Action Owner: Rusty Sprouse (sprouse) **Due Date:** 09/30/2017

Share the lessons learned from this event with Facilities Management and Logistic's SOTRs, line managers and supervisors, emphasizing that a "deliberate" response, over an "immediate" response is expected of Facilities personnel.

Evidence of completion: Presentation and sign in sheets

Root Cause

Event No. 3: Failure to Recognize Potential Hazard (smoke exposure from pipe with no apparent ignition or fuel source). While the pipe was on fire and smoking multiple people videotaped and took pictures of the fire and were in close proximity while taking photos and videos (see attached) exposing themselves to potentially dangerous fumes. This occurred both in the woods and in the CMSA.

Root Cause Corrective Action

Action Owner: Mary Logue (logue) **Due Date:** 09/30/2017

Associate Director's shall hold small group meetings with their organization (line management) using the developed "Tool Box Talk".

Evidence of completion: Copy of the Tool Box presentation and the sign-in sheets

Contributing Cause

Event No. 1 Discovery of burning pipe without an obvious source on SURA Property
A. Reluctance of JLab personnel to activate pull stations or call 911
B. Failure to recognize Fire as an Emergency/Hazardous Material Incident
C. Emergency Response Protocol is not clear regarding outdoor events

Event No. 2 Decision to move the pipe following the first ignition to a secure location (CMSA- gravel area)
A. Lack of questioning attitude before taking action

Event No. 3 Taking pictures and video of the pipe while burning/smoking. Potentially exposing them to unknown substance
A. Emphasis on recording unusual event overshadowed concern for individuals own safety.
B. Emergency Response protocol not clear

Contributing Cause Corrective Action

Action Owner: Tim Minga (minga) **Due Date:** 09/30/2018

Conduct a series of drills over the course of one year that involve multiple inhabited buildings and obvious hazards such as smoke, fire, smell, or unknown package hazard. These drills shall be coordinated with the emergency manager.

Evidence of completion: Critique captures response actions and time took to pull the station

Contributing Cause Corrective Action

Action Owner: Tina Menefee (menefee) **Due Date:** 09/30/2017

Evaluate the need to review and revise the Emergency Management flow chart to include emergencies that occur outside.

Evidence of completion: Memo to ESH&Q Associate Director with reasons why no changes are needed or attached the updated poster. * If poster is updated, communicate these changes to lab community

Extent of Condition Check

See action below- unknown

Does this event involve failed equipment?: NO

Is there similar equipment in other areas?: NO

Extent of Condition Corrective Action

Action Owner: Tina Menefee (menefee) **Due Date:** 09/30/2017

Request after action report from the NNFD and Army Corps of Engineers (USACE)

Lessons Learned

Lesson Learned

When there is an emergency situation - When outdoors, call 911 and get Emergency Services moving. Contact the Guard Post and alert them so that they can direct Emergency Services to your location.

Lesson Learned

Do not bring hazardous materials on DOE property, without consulting Industrial Hygiene.

Witness Accounts

EVENT #1

EH&S 1:- At approximately 1045am on 7/7/17, EHS&Q 1&2 were finishing up our routine Friday morning ESH site walkthrough.

- As we were heading west down the gravel portion of Hogan Road, we observed a small flame adjacent to a tree stump located in the wooded area to the southeast of the Residence Facility (northeastern corner of this block of woods and approximately 30 feet from gravel road).

- We got out of the golf cart to get a closer look and realized that the flame was coming from an old iron pipe that was partially buried in the dirt mound next to the tree stump.

- EHS&Q2 called FM&L1 to report the observation and FM&L1 arrived onsite with FM&L2 within a few minutes.

EVENT #2
- By the time that FM&L1 & 2 arrived at the location, the flame had extinguished but was still smoking. FM&L2 attempted to lift the pipe off of the ground with a stick and the flame started back up temporarily.

- EHS&Q 1&2 left the scene just after 11am to head back to the office.

- Around 1200pm, FM&L1, 3 and 4 arrived at the ESH&Q building with the pipe loaded on the back of a golf cart because it had cooled down enough to remove at the time. EHS&Q1 & 3 spoke with them in the parking lot and FM&L1 mentioned that he would be placing the pipe in the CMSA, away from any structures in the event that it caught back on fire.

- Around 1230pm, EHS&Q 4 observed and reported observing a fire to EHS&Q1 & 5 that he observed in CMSA. We immediately responded by going out onsite and EHS&Q5 called FM&L1 to report it and then the NNFD to chat with her point of contact and to get his insight on how to respond.

- The NNFD responded onsite 1245 to investigate and we also showed them the area where the pipe was originally discovered in the woods.

FM&L: After FM&L1 & 2 arrived at the scene and observed the pipe, I called FM&L3 to see if he could come out and provide us with what property we were on.

FM&L3 arrived with FM&L5 and we determined it was SURA property.

Before attempting to move the pipe, FM&L3 use a thermal imaging gun to ensure that there was no internal things/flames occurring in the pipe.

FM&L4 was then called. He brought a shovel to the event and we proceeded to dig near the pipe to ensure nothing was happening in the ground that could potentially cause a re-occurrence of a flame.

While we were doing this, I believe it was FM&L5, he found that the pipe was only partially buried and was not deep into the ground. Both ends were exposed

We dug around to see if there were any other ends to any pipes just below ground surface. Nothing was found

When the pipe cooled down, It was decided to move it to a Non-flammable controlled area and get it out of the woods. The next step was to determine what was in the pipe. FM&L5 contacted his Army Corp of Engineers contact to start conversations.

FM&L4 transported the pipe to the CMSA.

Event #3

Multiple people video taped and took pictures of the fire and were in close proximity while taking photos and videos (see attached) exposing themselves to potentially dangerous fumes. This occurred both in the woods and in the CMSA.

Records, Documents, Pictures, and Other References

Event #1 Pictures: See attached

Emergency Message sent out after Event #3: All:

A potentially hazardous piece of material has been discovered at the lab and was placed in the CMSA for temporary storage. Although the affected area has been blocked off please refrain from entering the CMSA for the rest of the day. If you need to enter please contact the guards (x5822) so they can brief you on the potential hazard prior to entry.

Regards,
Associate Director- ESH&Q

Emergency Notifications Made (Subsequent to the Event)

Fire, Rescue & Emergency Medical (9-911): 07/07/2017
Guard Post (x5822; 269-5822): 07/07/2017
ESH&Q Reporting Officer (876-1750): 07/07/2017
Other (TJSO): 07/12/2017

Documentation of Findings

Notable Event Number: FML-17-0707
CATS Number: NE-2017-05
Lessons Learned Number: 1022
ORPS Number: SC--TJSO-JSA-TJNAF-2017-0004
NTS Number: N/A
CAIRS Entry: N/A
DOE Cause Code: A3, B1, C04 Infrequently performed steps were preformed incorrectly
ISM Code: Analyze the Hazards, Perform Work Within Controls

Signatures

Investigation Team: Tina Johnson (cjohnson)
Investigation Team: Paul Collins (paulc)
Investigation Team: Steve Smith (sjsmith)
Investigation Team: Jennifer Williams (jennifer)
Investigation Team: Jonathan Trexler (jtrexler)
Investigation Team: Paul Powers (powersp)
Associate Director / Department Manager: Mary Logue (logue)
Associate Director / Department Manager: Rusty Sprouse (sprouse)