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RM SOCs Minute

volume 5, edition 3

Spotlight on Paw Creek Terminal

Message from Operations

Routine Risk – Under BP's values and behaviours **Courage is an integral component**. "What we do is rarely easy. Achieving the best outcomes often requires the **courage to face difficulty, to speak up and stand by** what we believe. We always strive to do the right thing. We explore new ways of thinking and are **unafraid to ask for help**. We are honest with ourselves and actively seek feedback from others…." RM has experienced **3 recent OSHA recordable** injuries this year. Last year this time we had far less and a total of 4 for the complete year. This trend is concerning and has prompted a Safety Stand Down within RM. It appears that **complacency played a factor** in some if not all of the injuries. Sometimes our routine risks lead to complacency in our field activities. Complacency is defined as **self-satisfaction especially when accompanied by unawareness** of actual dangers or deficiencies. The key part of the definition for all of us is ***unawareness of actual dangers and deficiencies***. What do we institute to address hazards and risks associated with routine activities? **What do we do to fight complacency?** Please ask yourself "What steps do you take to ensure that routine activities are performed safely?" There are many things that you can do to ensure that routine risks are performed safely. Some of these are:

Triangular roof monitor

- **Ensure routine activities are being addressed** in your WRATs and TSEAs.
- **Discuss site/job specific hazards during your Daily Toolbox** Meeting.
- **Review shared learnings/lessons** learned with your staff and subcontractors both in the office and in the field.
- **Reinforce people to slow down**, don't cut corners, and don't rush the job.
- **Aggressively remind workers that everyone has the power and responsibility to Stop Work.**
- **Stress with staff to change their routines** which forces the task to be looked at in a different light.
- **Provide training and refresher** training.
- **Provide a forum for individuals to share experiences** and learnings with others.
- **Minimize multitasking** so that you are focused on the task.

Lastly, make sure that you test the individuals in the field. Ensure that they are looking at routine risk in the WRATs and TSEAs. Arrive at the site missing a safety vest and see how they address the issue or not at all. See if your employees face difficulty and speak up and stand by what they believe. **Do they always strive to do the right thing.** Do they explore new ways of thinking and are unafraid to ask for help. Are they honest with themselves and actively seek feedback from others. **To put it simply, do they have Courage.** – *Danny Monson, OPM*

Additional Resources

BP RM HSSE Site *https://wss2.BP.com/remediationmanagement/HSSE/default.aspx*

SOCs Minute Resource Site *http://socs.dataccel.com/ (user ID: socs, Password: safety)*

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Contractor's corner

"Building 52" at the former Anaconda Wire & Cable Plant in Hastings-on-Hudson (NY) is a **2-acre, 40-foot tall**, vacant warehouse, housing RM equipment and liquid waste drums for site remediation activities. Haley & Aldrich site personnel recently implemented engineering controls to **mitigate hazards associated with several triangular monitors** rising out of the roof, after 100 years of weathering and a recent hurricane impacted the structural integrity. Using a man-lift inside the building to evaluate the condition and construction of the monitors, they discovered the **concrete support walls of several monitors were pulling away** from the metal framing and leaning outwards towards the roof, something that was not visible from the ground 40 feet below. While the general integrity of the roof was unchanged from previous structural evaluations, there was **potential for the roof monitors to fail and collapse**. Since the support walls were leaning outwards, it seemed likely they would fall outwards onto the roof rather than inwards into the warehouse; however, if they fell inwards, it could present severe safety hazards to personnel below, as well as the equipment and liquid waste storage. **Taking time to assess and discuss** the situation, they cut off all access to the building until they could determine the specific hazard areas. Determining that a 20-foot horizontal distance from each deteriorating monitor was an appropriate safety zone, they **installed temporary fencing inside** the warehouse, **delineating safe areas** from areas with potential hazard, and relocated the waste drums and equipment into the safe zones. "**We constantly need to reassess our hazards**," says Operations PM Eric Larson. "**Storm events and changes in season** can impact the stability of our buildings. While we evaluate the ultimate fate of this building, using engineering controls in the short term to keep employees a safe distance from damaged monitors is our best line of defense," adds H&A PM, Keith Aragona. *Please consider and share with your teams!*

Fencing inside warehouse

@Traction

To date, RM has 1 DAFWC, 3 recordables, 11 first aids and 15 injury/illnesses for 2012. However, there have also been **several "near misses" which had potential to turn into first aid** or other. Consider: twisted ankle (uneven surface), near finger pinch (**clarification of correct SOP**), potential H2S exposure (**did not follow WRAT**), fuel release (worker stepped away from monitoring the job), trip & fall (obstacle in path), uncontrolled pressure release (did not address pressure hazard), almost struck by vehicle (**un-alert**), cylinder regulator broke during move (**no SPP for task**), routine kneeling on ground (knee PPE not addressed in TSEA), cement mixing without dust mask (**not addressed in TSEA**), backing hazards (discussed during tailgate, not addressed in TSEA). **Be aware of surrounds and ground**, and make sure **TSEA/WRAT/SPP/SOP exist, accurately address the job, and are thoroughly followed**.

Spotlight on Paw Creek Terminal

Background

Paw Creek Terminal in Charlotte, NC, is a former Amoco Terminal built in the 1930's and currently owned and operated by a third party. Atlantic Richfield Co. (ARC), on behalf of BP Products North America Inc., is responsible for legacy remedial activities at the Site through 2013.

Multiple remediation systems operated at the Site between 1983 and 2003, incorporating free product removal, groundwater pump and treat, air sparging (AS) and soil vapor extraction (SVE). **In 2007, the current AS/SVE system was put in place**.

The Problem: Indoor Odor Events

From 2007 – 2010, an AS/SVE system operated intermittently at the Site; however, the **terminal office building experienced several indoor odor events**. The system was **converted to a biosparging system**, with 6 SVE wells in operation to keep odors from affecting the terminal office building.

Despite the changes made, an indoor odor event occurred in March 2011 and the biosparging system was turned off. The **cause of the events was thought to be the result of significant precipitation**, leading to increased groundwater elevation and sub-slab pressure, forcing odors to rise into the building. In February 2011, the current owner required implementation of an **odor mitigation plan before the biosparging system could be re-started**.

The Solution: Odor Mitigation

Several mitigation methods were considered, and installation of **horizontal SVE wells under the building was finally selected** as the method of choice. The facility's HVAC system was previously modified to create positive pressure within the building to prevent indoor odor events. However, the building's construction did not allow a large enough pressure differential across the building floor and was unsuccessful at preventing the events. A mitigation plan for the horizontal wells was developed in March 2011; revisions pushed the implementation to February 2012.

In addition to well installation, Site personnel also had to **address SIMOPs issues related to third party ownership** and operation. Some of these issues included potential **third party employee vapor exposure**, duplicate health and safety procedures, **disruption of business**, **control of work** setting and potential claims.

As well, during borehole advancement, two incidents occurred when: **1) drilling fluid entered the warehouse** through an expansion crack, and **2) a non-loadbearing wall was slightly displaced**. **Neither event created a health exposure or structural damage**, but both needed to be addressed with the field crew and the property owner, to identify the causes and **potential mitigation measures that may have been overlooked**, and to assure the owner that the incidents were managed effectively and the work was being performed with considerable attention to the facility and their employees. The incidents required evaluation to determine if sub-slab disturbance created by the drilling would affect the transmission of odors into the building. After review, the incidents were determined to have not been readily mitigated through additional planning and actually provided **evidence that SVE wells under the building would likely have significant influence** due to the porous nature of the sub-surface material.

The Outcome: Horizontal SVE Wells

In February 2012, three 90-foot horizontal borings were successfully installed beneath the building using a Geoprobe™ horizontal boring rig. Following borehole advancement, vapor extraction wells with 30-foot well screens were installed and connected to the existing SVE system.

Although the installation of the horizontal wells met with some complications, it was completed according to plan. The **successful SVE restart and operation is indicative of the potential for the vapor mitigation activities** to prevent further indoor odor events at the Site. The SVE wells have operated for approximately 2 months without incident and the biosparging activities will be restarted in May 2012.

Special thanks to BP OPM Greg Frisch and all Paw Creek Terminal RM personnel!