

SPECIAL EDITION - SPOTLIGHT ON PAULSBORO TERMINAL

Message from Operations

Congratulations to RM contractors, subcontractors and staff for a successful roll out and implementation of RM's HSSE Management system and COW program. Results indicate that through everyone's collective effort **we better understand, recognize and mitigate work activity risks** than ever before. Sometimes the process may seem tedious and redundant but the fact is the program works. Our mutual **challenge in 2011 will be to avoid the complacency trap and keep the risk identification and mitigation process effective.** Its clear that throughout 2010 we have focused on and improved the Work Risk Assessment process in the project planning stage. In 2011 we need to also ensure that the **on-site Task Safety Environmental Analysis (TSEA) process is fully utilized** at the actual work site by the individuals performing the work.

Thanks again for your efforts in 2010. Lets carry the momentum into 2011.

—Chris Winsor, Retail, Terminals and Pipelines Operations Manager

FROM THE FIELD . . . *Spotlight on Paulsboro Terminal . . .* BP's former Paulsboro, NJ Terminal is currently undergoing environmental remediation, which recently included a large scale steel removal project. After months of planning, careful execution and the right people involved, the project was completed in just a few days, with no incidents. See page 2 for more information.

Consider This . . .

With winter upon us, many of us are dealing with colder, wetter weather than usual. **Cold stress** is a very real hazard, potentially resulting in **dehydration and hypothermia.** A mere 3.6 degree F drop in core body temperature – from 98.6 to 95 – results in hypothermia, as the body first shivers to generate heat, then decreases blood flow to extremities to minimize heat loss, and finally slows the metabolism to minimize need for fresh blood flow and oxygen (resulting in a dangerously low core temperature). Cold air also holds very little moisture, allowing the body to dehydrate with each breath exhalation. The addition of wind to a cold climate further increases dehydration and speeds hypothermia. **Heated shelters, frequent rest breaks, access to water** and available **change of clothing** can help prevent cold stress. Additionally, **proper layering** can wick moisture away from body and prevent perspiration accumulation in clothing layers (which can continue to cool and chill the body), insulate from cold air, and protect from wind and precipitation.

Additional Resources

HSSE Bi-weekly communication <http://rmhsse.bpglobal.com/communication/hsseweeklycommunication/2009/stories/>

Shared Learning <http://rmhsse.bpglobal.com/communication/sharedlearninglessonslearnedsafetycommunicationsuccessstories/>

SOCs Minute Resource Site <http://socs.dataaccel.com/> (user ID: socs, Password: safety)

To comment, inquire, or obtain information on any item in this publication, or to submit an item for publication, please contact May Marcinek at mmarcinek@envirosolve.com, or 818.889.0090.

Contractor's

Sonic drilling is becoming a more desirable and common drill method for environmental remediation projects. This past fall in BP RM alone, several different sites employed sonic rigs for various drilling projects, with a couple of these sites performing more extensive sonic drill projects. Traction incident reports are showing that drill teams are learning more about sonic drilling, potential hazards, standard procedures, and how to work around the rigs. **If your site has had an unusual incident or near miss, a new lesson learned, development of new SOP/SPPs, or simply has sonic drill experience to share,** please talk to your BP PM about submitting it for inclusion in an upcoming edition of the RM SOCs Minute newsletter. (Submissions can simply be a brief email paragraph or a few lines explaining what happened or what was learned. Please contact Chuck Carmel or May Marcinek if any questions!)

@Traction

During November and the first half of December, **inadequate or incomplete risk assessment** was a common contributing factor to a number of incident reports and near misses. Incidents ranged from neglect to follow procedure, to several incidences of **hurrying and either not completing or not following the RA,** to RAs that did not take into consideration the **full range of potential hazards,** routine activity without thought, neglect to inspect equipment, inadequate PPE, **changing circumstances,** and apparent **break down of communication.** There were a lot of positives, including near misses that were caught before they became incidents, excellent reactions and responses to incidents and near misses, and proactive changes made before incidents could occur. However, Risk Assessments are one of the greatest tools we have in fulfilling our purpose of no accidents, to harm to people, no damage to the environment. **Proper conducting of an RA, frequent review and discussion** by all members of the work team, and vigilant **alert to changing conditions** can all help us get more out of our RAs. Talk to your PM if you have any questions or concerns – and remember, **STOP WORK is ALWAYS appropriate** if you suspect your RA has not been thorough enough for the job or task.

BP's former Paulsboro NJ Terminal on the Delaware River is in the middle of remedial action implementation. BP has leased most of the 130 acres for beneficial reuse/creation of the Port of Paulsboro, and while the Port works to redevelop the leased property, BP continues to perform remedial work throughout the Site. Recent remedial work involved excavating, backfilling and regrading at several locations within a riverfront area being used to store steel plates and piles for a bulkhead construction project down river at another former BP facility. In order to accomplish remedial activities, the steel needed to be moved to a new storage location, a simple answer which required a complex solution. After a long and careful storage selection process, with included evaluation of onsite and offsite options, and literally months of planning, the **steel pile removal was performed in 3 days during mid-March 2010, and the plate removal was performed in 2 days at the end of May 2010, all without incident.**

The Piles

More than 200 steel piles still needed corrosion protection, so they were trucked to a facility for coating and storage. A major challenge in safely removing the **650 tons** of steel piles was **coordinating truck drivers**. Lots of trucks, many trips, rough unpaved roads, travel through communities, and extra long loads meant preplanning routes and schedules with minimal impact to the community, bringing drivers on board with the BP safety policy, and drivers practicing the sharp turns in the route ahead of time. **Load procedures were designed**, including staging, turn around and backing; and staging and accommodation of huge forklifts, hand signals, speed limits, cell phone policy, vehicle parking and a markout zone for standing personnel were all planned. **Drivers were escorted** while on site, and loads were rechecked at exit to ensure rough site roads had not loosened chains securing the steel piles. **Heavy winter snows and rain impacted the ground** and affected scheduling; however, the March 2010 removal "went like clockwork," with **zero incidents or near misses.**



The Plates

Already welded to size (30'x30' dimensions), and weighing approximately 50,000 pounds each, the 25 steel plate assemblies were huge and could only be **transported by barge** to their temporary storage location up river. Five foot tides and the potential of

debris on the river bed meant performing a **sonar scan of the river bottom** to ensure the barge would not be punctured. As well, electric **lighting wires on the docks** were temporarily lowered, run on grade through conduit, and **LOTO'd each day** during the lifts over the top of them, and then **turned back on in the evenings** to meet USCG lighting requirements. The critical lifts for the steel plates were performed in late May, during warm weather, which meant **hydration, shade and frequent rests** were also planned up front.

- **Two cranes were utilized to perform the lifts**, one transferring the steel from the storage location to the river bank, and one loading the plates onto the barge. The big crane (500 tons) had to be constructed on site, with help from the smaller crane (250 tons), and twelve truckloads totaling 480,000 lb. of counterweight were brought in. Moving the cranes and counterweights involved **planning travel routes** through town, hand signals and site escort. As the terminal is directly across the river from the Philadelphia airport, a **permit for the 200 foot high crane boom** was needed from the FAA.

- Because the cranes would be sitting on **reclaimed land**, a **geotechnical investigation** was performed to determine if the land had the structural integrity to support the cranes – and it did not. **Ground improvement** included excavating the top 12 – 18 inches of soft ground, designing, filling and compacting stone pads, obtaining erosion and sediment control permits, clearing brush, relocation of power lines, and testing the ground and imported fill to meet engineering specifications. On top of this, there were **weather issues to deal with (lots of rain)**, and preparation for a large crane swing radius.

- OSHA has requirements for lowering personnel by crane onto the barge, so crane prep involved planning for **personnel lifts as well as heavy steel lifts**. A loading plan was developed ahead of time to prevent loads from tipping the barge. Barge personnel wore **PFDs and a rescue boat** was on standby the entire time.

The lifting job itself went incredibly quickly, smoothly and incident free. The 2 ½ to 3 months of planning, including several meetings and risk assessment with contractors, played out in a **total job performance time of only 2 days**, with more than 1 day spent just rigging and de-rigging the cranes (i.e. actual lift time was minimized).

From ground disturbance to critical lifts to driving to cold stress, heat stress, heavy equipment, overhead utilities and SIMOPs, **nearly every single CoW defined practice was utilized at least once**. As Sasa Jazic, BP PM and Iain Bryant of Sovereign note, "**good planning, the right people and proper execution**" made all the difference. Their takeaway? **The extra time spent planning can feel slow and frustrating, but you will see the payoff in the end.** More time and money in the planning phase can help result in better execution, a higher level of safety and less time and money overall. – *Special thanks to Sasa Jazic, Iain Bryant, Jorge Montoy, Rob Valorio and all contractors involved in the Paulsboro Terminal critical lifts project!*