

## No more workarounds—you need a Management of Change

By Shannon Smith

TDI-Brooks may have a small fleet, but our operations are global. We often operate in remote areas where getting supplies and the right parts are very difficult if not impossible. You still have to get the job done the best you can with what you've got.

This may mean patching a hole with approved material as a temporary fix or locking out damaged equipment until a replacement arrives. It does NOT mean bypassing safety features or using equipment for something it was not designed to do. Bypassing manufacturer's recommendations and jerry-rigging equipment have resulted in too many injuries and fatalities to mention in this newsletter.

When it comes to proposing a change in operations or procedures, a **Management of Change (MOC)** process has been established to manage risk to workers, equipment and the environment.

**An MOC is a 3 step process.** **Step 1** is for affected personnel to have a **meeting** and complete **Step 2**, a **risk evaluation** of the proposed change and determination if the risk is acceptable to meet the goal. If the group agrees the risk is acceptable, then **Step 3, implementation** may begin. If the change is temporary, the fourth step is an **evaluation** to see if the change was effective.

**When do you need an MOC?** Any time you deviate from normal procedures, whether they are contained in an SOP or simply understood among vessel crew, you need an MOC.

An MOC for changes does the same job as a permit to work for maintenance and can be used just as easily. A Captain or Party Chief may approve a temporary or urgent MOC. Permanent MOCs require approval from the home office. The forms and instructions are on the TDI Forms page.

USCG Houston-Galveston Sector recently investigated a incident in which crane maintenance was not performed according to manufacturer's instructions due to lack of proper equipment on board.

The crew created a workaround procedure but no risk assessment or JSA was conducted. A crewman was killed as a direct result of the workaround. This fatality could have been prevented by a Management of Change.

The next time you think about changing normal routine or procedures, evaluate the risks. Conduct the required MOC with those involved. If the risk is too high, don't do it. Your family is counting on you to come home injury free.



Rigged gear using vise grips and a rubber band.

Working safely  
may get old, but  
so do those who  
practice it. *Anonymous*

### Share your near misses!

If you had a near miss where you or a coworker almost got injured, what kept the injury from happening? Share your story so others can learn. Send them to [HSE@tdi-bi.com](mailto:HSE@tdi-bi.com).

### **TOP 3 Safety Card Hits**

(Fleetwide last month)

**Housekeeping 12**

**Safety Attitude 10**

**PPE 4**

# Risk Assessment for Routine Maintenance Ops



Maintenance aboard ship can be both complex and dangerous. For this reason, manufacturers of the various shipboard systems provide detailed procedures on the proper ways to maintain their equipment. These procedures, when coupled with solid risk assessment, ensure that work is performed as safely as possible.

Risk Assessment becomes critical if emergent circumstances require deviation from the manufacturer's instructions. Recently, the Port of Houston investigated a casualty onboard a cargo ship where a crewman, performing maintenance on a ship's cargo crane, lost his life. The investigation found that the maintenance was not conducted in accordance with the manufacturer's instructions and no risk assessment or mitigation analysis had been performed.

In this incident, the proper equipment for refilling the crane's hydraulic reservoirs was not onboard. To accommodate the lack of proper equipment, a workaround was devised by the ship's crew. The crew used compressed air to push fluid from a portable tank through a hose placed into the crane's reservoir vent opening. The hydraulic tank is accessed from inside the crane tower using a narrow elevated platform. The ship's air system was rated at 6 bar. The hydraulic oil tank was not designed to hold oil at that pressure and the aluminum alloy access port for the tank was rated at 1/2 bar. The crewman was at the reservoir refilling it when an inspection cover burst under the increased pressure. He was knocked off the platform and fell approximately eight feet, suffering fatal head injuries.

**The following are lessons learned from this investigation:**

1. Fabrication of jerry-built equipment to facilitate or accommodate operations is inadvisable and discouraged.
2. Adherence to manufacturer's maintenance procedures is critical.
3. Compressed air is often misjudged and not recognized as a hazard.
4. The fact that a procedure has previously worked does not provide the indicia of safety needed.
5. Maximum operating pressures of tanks should be known and strictly observed.
6. Personnel involved in the work should be made aware of all identified risks.
7. Risk mitigation strategies and additional personnel protection must be employed as necessary.
8. An active safety program must be in place to continually evaluate procedures and prevent complacency.

[The above is from Marine Safety Information Bulletin 08-15 issued May 2015 by USCG Houston-Galveston Sector Commander, Brian Penoyer and is in effect until May 20, 2016]

## Safety Tips– Word Find

O Q R M P C I L U A R D Y H U  
 R H E A T A G O U T C I X O T  
 I F H E I G H T T J T C U H C  
 A F S L A C I M E H C Z E U F  
 D U D R A O B R E V O N A M C  
 E M Z D Q L O C K O U T U C J  
 S E L B A M M A L F L Q N W N  
 S S E T Q W P E R M I T S U E  
 E X U E W E R U S S E R P L G  
 R N O I T A C I N U M M O C Y  
 P M L T F L X H F U C R Q G X  
 M O G T S E R R A L L A F I O  
 O F Y S X I H T Z B B L O F D  
 C G S D N I L B E N I L B S W  
 V G J H E L E C T R I C I T Y

Several potential hazards and mitigations are listed. See how many you can find.

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|----------------|---------------|-------------|
| CHEMICALS      | FUMES         | OXYGEN      |
| COMMUNICATION  | HEAT          | PERMITS     |
| COMPRESSED AIR | HEIGHT        | PRESSURE    |
| ELECTRICITY    | HYDRAULIC     | TAGOUT      |
| FALL ARREST    | LOCKOUT       | TOXIC       |
| FLAMMABLES     | MAN OVERBOARD | LINE BLINDS |



[Words may go up, down, backwards or diagonally]