

TapRoot Investigation

RESTRICTED WORK CASE

3rd January 2010

**Deck Personnel Attempting to Relocate 55
Gallon Drums Resulting in Finger Injuries**

Halul 15

Description of incident

- On 3rd January 2010 the crew of the Halul 15 were engaged in deck loading operations.
- During loading operations the deck crew discovered that they could not fully open the door to a container owing to the close proximity of 55 Gallon Drums.
- Deck crew were instructed to move three 55 Gallon drums each weighing 200 kgs to allow access to the container.
- Despite the presence of a jetty crane and drum lifter the Bosun decided to move the drums by tilting them onto their sides and rolling them.
- At 10.55 the Bosun started to move the third drum which was to be placed on top of a pallet. The drum became partially lodged in the uneven decking of the vessel.
- At this time the IP decided to assist the Bosun. He placed his hands underneath the drum with the intention of pulling the drum towards him to dislodge it. In pulling the drum the centre of gravity changed, the Bosun lost his grip and the drum fell onto the middle fingers of both the IP's hands.
- The skin and nail of the left middle finger was cut and around 5mm of tissue was lost and a hairline fracture sustained. The tissue was subsequently replaced and a skin graft completed. The right middle finger suffered compression injuries.
- The IP returned to his vessel and was assigned Navigational Watch duties.

Photographs and Illustrations



The incident site as viewed from above. The green drum was being moved around 2m and became partially lodged here enroute to the pallet visible at the bottom of the picture. Poor work planning is evident from the other items around the drum causing congestion.

Photographs and Illustrations (Cont..)



The method used to move the drum across deck. The full 55Gallon drums weighs 200kg.

Uneven deck surface where the third drum became partially lodged. A trolley could move over the differences in the deck.

IP crouched down and put his hands and fingers under the drum to pull it towards himself and dislodge.

Photographs and Illustrations (Cont..)



A re-enactment of the incident. When the edge of the drum became partially lodged the IP put his hands under the drum and pulled it towards himself.

Actions to prevent recurrence

Root Cause	Corrective Action	Due Date	Responsibility
<p><u>Work Direction</u> Preparation</p>	<p>Vessel Master, deck supervisor, jetty foreman to conduct more effective discussions and implementation of loading plans. All equipment requiring access must be unimpeded.</p>	<p>Immediate</p>	<p>RasGas Marine / Halul Offshore</p>
<p><u>Management System</u> • SPAC NI</p>	<p>Crew members must be aware that short cuts are not acceptable and all jobs must be given the sufficient time to be completed safely. Deck Supervisor to ensure compliance and accountability.</p>	<p>10th Jan 2010</p>	<p>Halul Offshore</p>
<p><u>Work Direction</u> Preparation</p>	<p>A Tool Box Talks must proceed all tasks and be attended by all personnel involved in the tasks. In the event of a change in conditions, personnel or scope of work, the job should be stopped and a new Tool Box Talk held.</p>	<p>10th January 2010</p>	<p>Halul Offshore</p>

Actions to prevent recurrence

Root Cause	Corrective Action	Due Date	Responsibility
<p><u>Communications</u> No Comm. or Not Timely</p>	<p>Halul Offshore to ensure that all e-mail communication systems are fully operational at all times. If the vessel is in the field and can not come to port for technical assistance, a technician should be sent to the field.</p>	<p>10th January</p>	<p>Halul Offshore</p>
<p><u>Human Engineering</u> Human – Machine Interface NI</p>	<p>Due to the excessive lifting and handling involved in the moving of 55 Gallon drums around deck areas, a drum trolley should be provided and suitable training given to concerned personnel.</p>	<p>10th February 2010</p>	<p>Halul Offshore</p>
<p><u>Training</u> Understanding NI</p>	<p>Halul Offshore to take ownership of the training requirements for a safe work place for their personnel. A Hand Safety and Manual Handling Awareness Programs must be provided. CID Safety will assist with training as required.</p>	<p>10th February 2010</p>	<p>Halul Offshore CID Safety</p>

Other Corrective Actions

- **Safety Stand Down Meetings conducted on all RasGas chartered vessels discussing the incident and RasGas work expectations.**
- **Hazard Recognition Process (HRP) Training to be delivered on all RasGas chartered vessels**
- **Hand Safety and Manual Handling training to be re-presented on all RasGas chartered vessel.**
- **RasGas Marine to hold a Marine Safety Forum attended by representatives of all vessel owners with vessels on charter to RasGas. Recent incidents will be discussed and RasGas expectations highlighted.**
- **Health and Safety Management System audits will be conducted on all vessels to verify satisfactory implementation of Contractor's Safety Management System, compliance with the Agreement and compliance with the RasGas Requirements.**