

IMCA Safety Flash 09/09

June 2009

These flashes summarise key safety matters and incidents, allowing wider dissemination of lessons learnt from them. The information below has been provided in good faith by members and should be reviewed individually by recipients, who will determine its relevance to their own operations.

The effectiveness of the IMCA safety flash system depends on receiving reports from members in order to pass on information and avoid repeat incidents. Please consider adding the IMCA secretariat (imca@imca-int.com) to your internal distribution list for safety alerts and/or manually submitting information on specific incidents you consider may be relevant. All information will be anonymised or sanitised, as appropriate.

A number of other organisations issue safety flashes and similar documents which may be of interest to IMCA members. Where these are particularly relevant, these may be summarised or highlighted here. Links to known relevant websites are provided at www.imca-int.com/links. Additional links should be submitted to webmaster@imca-int.com

I Poor Maintenance and Subsequent Failure of Welding Equipment

During a recent mobilisation on a member's vessel, sub-contractors were burning and welding sea fastenings on the main deck. Following a report that flames were coming from the contractors' acetylene tank regulator situated inside the holding gas quad, a small fire was extinguished at the regulator, which was then cooled and removed for inspection (see Figure 1). On examination it was found that thread tape was being used in all the connections on the contractors' equipment.



Figure 1 – Leaking regulator

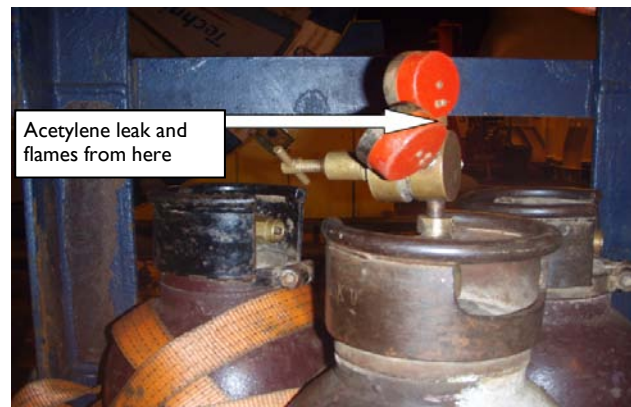


Figure 2 – Leaking regulator in-situ

Further incidents with welding equipment on the same vessel were:

- ◆ A ship welding cable was found to be smouldering at a connection point;
- ◆ A midway cable connector was found arcing and smoking during deck welding operations;
- ◆ A nozzle head was found detached from an oxy-acetylene torch.



Figure 3 – Welding cable found to be smouldering

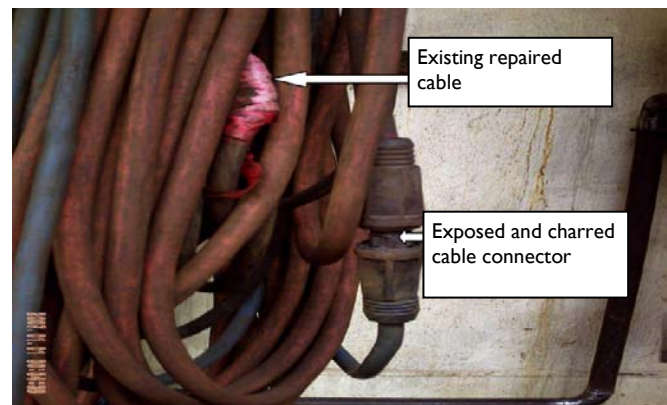


Figure 4 – Midway cable connector found arcing and smoking



Figure 5 – Detached nozzle head

The company would like to highlight the potential hazards of lack of control and maintenance of ship's and sub-contractors' welding equipment, as there have been a number of incidents involving welding equipment in a poor state of repair and being used whilst unfit for purpose onboard recently.

Members are also referred to the following incident report issued by the Marine Safety Forum regarding a further welding incident.

It highlights an incident involving a welder who was adjusting the pressure on an oxygen regulator. The welder had oil on his hand and there was an oxygen leak from the hose clamp. As a result the welder's hand was badly burnt. Oxygen under pressure and hydrocarbons (oil and grease) can react violently, resulting in explosions, fire and injury to personnel and damage to property. Never allow oil or grease or any organic matter to come into contact with oxygen under pressure.

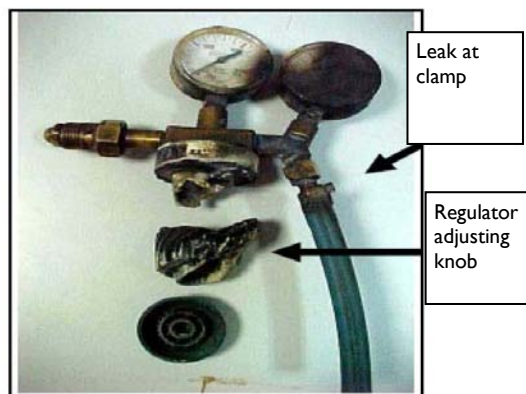


Figure 6 – Location of oxygen leak from hose clamp



Figures 7 and 8 – Welder's burnt hand following oxygen/hydrocarbon fire at leaky hose clamp

A member has provided the accompanying checklist for welding equipment which may be useful to members.

Pre Mobilisation / Demobilisation Welding Check List

	Yes	No	Comments
Equipment :			
Are welding cables and connections in good condition so as to prevent arcing on the deck? Are personnel aware not to run cables over lifting equipment in case of arcing?			
Has the burning equipment been fitted with correct flashback arrestors, gauges and hose crimps?			
Are all lifting accessories and equipment certified, i.e. baskets, bottle racks, lifting slings?			
Is there a lift basket or cage for lifting gas bottles? If not is there one available on the vessel?			
Is bulk oxygen and acetylene stored separately at least three metres apart?			
Is there a basket available for lifting Sea fastenings onboard? <i>Loose Sea fastenings cannot be lifted onboard by pallets.</i>			
Are approved welding procedures available?			
Are personnel aware that, if pre-heating, only rose bud heaters are allowed and not cutting torches?			
Worksite:			
Have flammable liquids/gases/solids been identified at the worksite? Do they require to be removed, barriered off, highlighted or covered with a fire retardant blanket?			
Are all 'no weld zones' clearly marked and are personnel aware of them? Has a deck plan been issued to vessel supervisor and subcontractor showing all the zones?			
Have fire zones been isolated?			
Is there adequate lighting?			
If required to work at height is there suitable access, work platforms and safety equipment?			
If required to work over the side, is the crane man riding, basket and rigging certified, correct personal protective equipment (PPE) and has a risk assessment been completed?			
Have personnel been made aware of correct PPE when working next to exposed/unguarded edges and openings?			
Have fire fighting appliances been identified and readily available at the work site and firewatchers positions?			
Have provisions for scrap waste and used welding rods been provided?			
Have personnel been made aware of vessel movement when it comes to setting up their cables from the shore side to the vessel?			
Have personnel been made aware of the restriction on welding on or cutting the vessel shear strake?			
Are there provisions to protect the welders during wet weather?			
Have personnel been made aware on the importance of cable management and keeping walkways unrestricted?			

Pre Mobilisation / Demobilisation Welding Check List

	Yes	No	Comments
Personnel:			
Has the permit to work been completed and have all personnel read and understood the risk assessment?			
Have contractors had a shore side vessel safety induction?			
Have the firewatchers been given a full safety briefing and procedures to follow whilst on duty?			
Has the subcontractor foreman/supervisor been introduced to relevant vessel personnel as a point of contact?			
Do the firewatchers have high visibility vests?			
Do the firewatchers have a proven and tested form of communication in the event of an emergency?			
Do all contractors have full PPE?			