

Oxy-arc umbilical handling winch – fire on deck

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A member has reported an incident where the triple drum umbilical handling winch for subsea oxy-arc cutting equipment caught fire.

What happened?

The on deck fire alarm was raised 21 minutes after the equipment had first been made 'hot' and cutting had commenced by the divers.

All personnel responded to the alarm correctly, the fire was extinguished using local fire extinguishers, the divers were recovered in a controlled and safe manner to the system and the vessel exited the 500 metre zone to ensure the area was safe and to allow a preliminary investigation to take place.

The preliminary investigation showed that the amperage on the welding machine was set at 803 amps. This was in excess of the normal value of 150-250 amps recommended for oxy-arc cutting.

This high amperage caused the insulation around the welding unit connection at the triple drum interior connection plate to breakdown/melt, causing a short and giving rise to an ignition source.

In order for the fire to have reached such intensity in the short time, the initial investigation found that the oxygen supply hose inside the drum had ruptured and fuelled the fire.

The welding unit was rated to 800 amps which is in excess of the requirement for oxy-arc burning and exceeding the 500 amps rating of the welding cable and connectors -information which onboard personnel were potentially unaware of.

Our member took the following actions:

The member raised a company safety alert highlighting the fact that the welding machines were capable of delivering up to 800 amps, and new signage was placed on the machines prohibiting use by non-authorized personnel. Lower current welding machines will be procured to replace the over specified units.

Members are reminded of the importance of ensuring plant and equipment compatibility and of working within the operational parameters set by equipment manufacturers and suppliers.

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