

Oxy-arc cutting

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The investigation into a diver fatality on a subsea structure involving oxy-arc cutting has identified that the most likely cause of the explosion was that gas trapped in a cavity above the diver was ignited by a spark.

The gas was likely to have been generated during the oxy-arc cut on the spool directly below the cavity.

The company involved has issued the following instructions to its personnel regarding subsea oxy-arc cutting:

- oxy-arc cutting should only be used if there are no practical alternatives.
- any oxy-arc cutting operation needs the approval of the relevant manager for that operation and a specific task plan and risk assessment covering the detail of the particular task need to be in place.
- supervisors should ensure all hazards have been identified, the risk properly assessed and that control are clearly specified, communicated and in place prior to work commencing.
- divers who use oxy-arc equipment should be trained in its use.
- divers who are to carry out oxy-arc cutting should be fully aware of and understand the risks and risk control methods to be adopted.
- supervisors and oxy-arc equipment operators need to ensure that there is no possibility of gas entrapment, creating a potential explosion hazard, prior to striking an arc.
- supervisors and oxy-arc equipment operators need to ensure that any potential location where gas could be trapped is completely vented before striking the arc. This will probably require creation of a vent hole. Flushing the cavity with air is not likely to be sufficient.
- oxy-arc equipment operators should not energise the Broco rod unless oxygen is flowing through the rod. Hydrogen from electrolytic action can otherwise build up in the rod, creating an explosion hazard.

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