

Ref : DMA/AIFI/97/C 954

Date: 24/10/2018

Dear Captain  
Good Day,

**In UK Club's latest 'Lessons Learned' article, Captain David Nichol describes a case of a serious eye injury of an engineer while conducting maintenance of fresh water steriliser. The analysis identified that the injured man had not been wearing any face protection, while a proper risk assessment had not been conducted.**

**The incident:**

The incident occurred while two of the vessel's engineers were performing maintenance on the U.V. steriliser of the fresh water generator in port. The work involved replacing a U.V. lamp and its associated tubular quartz glass sleeve within the cylindrical steriliser casing.

After the old lamp and sleeve were removed and the new sleeve installed, the engineers decided to hydrostatically test the steriliser unit to verify that the sleeve was correctly fitted and not leaking before installing the lamp. As a precaution against over-pressurising the unit, a vent was said to have been opened on top of the casing as well as a by-pass valve before opening the water inlet valve.

After the inlet valve was opened, one of the engineers positioned his head above the open top of the steriliser casing to look into the sleeve. At that moment, the glass sleeve violently imploded, forcefully blowing glass fragments into the face and eye of the engineer.

The injured engineer was quickly transferred to a local hospital where doctors were unfortunately unable to save the sight in the affected eye.

**Analysis:**

This is one of a number of accidents notified to the Club relating to the explosive failure of glass fittings, pressure gauge glasses, manometers and light bulbs resulting in serious injuries to crew.

Although the vent and by-pass valves were found to be open during the subsequent investigation, excessive pressure had evidently been able to build up within the casing around the glass sleeve, causing it to shatter.

It was reported that the injured engineer was not wearing any face or eye protection when carrying out the work, despite the ready availability of this equipment in the engine room. If the engineers had performed a proper risk assessment and toolbox talk prior to carrying out the task, this would have given them the opportunity of identifying the potential hazards associated with the job and what precautions were required to minimise risk to personnel.

**Lessons learned:**

- 1- Always perform a proper risk assessment and pre-work toolbox talk when work is to be carried out on pressurised systems or on fragile components that could potentially fail, exposing crew to injury.
- 2- Reference should be made to the relevant SMS instructions, safety precautions and checklists prior to commencement of any maintenance work.
- 3- Ensure that appropriate PPE is worn at all times including full face visors and goggles as appropriate to the assessed risk.

- 4- When performing maintenance, always refer to the manufacturer's instructions and observe recommended safety precautions.

You are requested to confirm receipt , discuss the contents in the next consolidated meeting on board and keep a copy in DA-11 file.

Best Regards,

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