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## Burn injuries during use of jet water washing equipment

The Norwegian Maritime Directorate has received reports of incidents occurring during work involving the use of jet water washing equipment, and several of these accidents have resulted in severe burn injuries.

**Incident 1:**

A sailor received a severe burn injury when a water hose ruptured without warning. The accident happened when the injured was cleaning the tanks.

**Incident 2:**

An officer received severe burn injuries when the coupling between the water hose and the water tap failed. The accident happened when the crew was working on opening a clogged pump by use of hot water.

The causes of such incidents can among other things, be traced to:

- Incorrect use of coupling between water hose and water tap. Couplings that are not constructed to withstand the high pressure are used, and consequently the danger of such incidents increases.
- More pressure is used than what the hose is constructed for.
- Use of hotter water than what the hose is constructed for.
- Defect equipment used because maintenance routines are not followed.

**Recommended action:**

The Norwegian Maritime Directorate finds it necessary to stress the importance of complying with the requirements of rules and regulations in order to contribute to the prevention of such accidents:

**Training:**

The shipping company and the shipmaster are responsible for proper training, practice and instruction of new personnel on board the vessel. Information about dangers and irregularities which may occur in connection with work, must also be given.

Training must be documented in writing.

An operating manual must accompany the jet water washing equipment. In addition, instructions on how to use the equipment must be available on board, in which elements of danger are emphasized.

**Risk assessment:**

Hazards connected to work operations on board the vessel must be identified/registered. When a hazard is identified, an assessment of its risk must be made. Based on the Risk assessment, measures and work methods must be considered in order to ensure the safest possible level of protection, as well as continuous improvement of the safety and health of the employees, and that this is integrated into all activities on board.

**Inspection and Maintenance:**

Safety under such work operations depends, among other things, on the installation and assembly of work equipment. Therefore, an inspection must be made prior to using the equipment. The equipment is exposed to influences causing deterioration, which may lead to dangerous situations. Sufficient inspection which can be documented, must therefore be carried out.

**Equipment:**

Jet water hoses and the equipment connected to the hoses, must be certified for the working pressure as well as the liquids which will be used. Damaged equipment must not be used.

**Rules and regulations:**

Reference is made to Regulation of 1 January 2005 No. 8 concerning the working environment, health and safety of workers on board ship, § 2-2, § 2-3, § 2-6 and § 4-3, § 4-4, § 4-5, § 4-6, § 4-7, as well as § 9, second to seventh article.

The Regulations can be found in its entirety on "Lovdata":

Regulation of 1 January 2005 No. 8 concerning the working environment, health and safety of workers on board ship

Signature

Director General of Shipping and Navigation

Signature

Director of Department