Helicopter rotor downdraft hazards – Oil & Gas UK (OGUK)

Safety Flash Published on **24 February 2016** Generated on **22 January 2025** IMCA SF 05/16

Following a recent near miss incident, OGUK has drawn attention to the hazards of blown objects from helicopter downdraft, particularly where loose or inadequately secured equipment has been lifted into the air and fallen either overboard or been dropped onto a lower area of the vessel or installation.

What happened?

An S92A helicopter landed on a platform helideck, and the downdraft force lifted and blew two bags, each weighing 10kg, from the baggage cage. They landed on a lower level 10m below – fortunately no personnel were on the lower level at the time.

OGUK also note the following previous occurrences: An aluminium locker was situated on a level below the helideck – a door was detached by the helicopter downdraft. A wooden crate lid blew off and went over a handrail and into the sea. Two large mats were lifted from the deck area during helicopter operations – this incident resulted in one mat landing on the deck below.

Similar incidents keep occurring in other parts of the world. All of these objects were unsecured and/or inadequately stored. All incidents had the potential to cause serious injury to personnel or damage to the vessel or the platform structure – or in some cases the helicopter.

OGUK provides the following information:

With regard to helicopter downdraft; rotor downdraft forces, combined with prevailing wind speeds, can generate winds equivalent to a **Category 1 Hurricane over distances of 25m from the aircraft.**

- Very heavy objects within the downdraft zone can become airborne if not restrained.
- Unsecured/unlocked locker doors in the vicinity of helidecks have been found to be a hazard due to high winds and helicopter operations.
- Wooden crates and loose equipment may be at particular risk – the following points should be noted:
  - Lockers, wooden crates and loose equipment are often stored in areas that may become exposed to high winds or helicopter downdraft. Consideration should be given to the object becoming lighter and more susceptible to high winds or helicopter downdraft once opened and equipment is removed
  - Adverse weather guidelines and checklists should be used when adverse weather is forecast – these should include checking that pallets, crates

and lids are secured or sheltered
    - Crate lids can sometimes be inadequately re-secured due to existing nail/pin holes being used to fasten the lid
    - Where a secondary securing method is applied it can sometimes be ineffective or inappropriate e.g., ad hoc equipment or weight being placed on top of the lid to hold it down. This equipment or weight is often removed for various reasons by persons unknown.

Members may wish to:

- Review risk assessments and assure robust procedures are in place.
- Ensure that HLOs and helideck crews are fully aware of the risks involved.
- Use team briefings and tool box talks to raise awareness of windblown objects caused by helicopter downdraft or severe weather.
- Make careful checks of all areas adjacent to the landing area and flight path to identify areas at particular risk. Secure or remove all materials susceptible to rotor downwash before flight arrival and take off, and ensure such checks are discussed during tool box talks.
- Confirm that lockers and wooden crates are stored in an appropriate location not exposed to high winds or helicopter downdraft, and include the requirement for secondary securing method to be applied.