

Personnel Transfer to and from Offshore Installations

On the whole, most oil and gas activity takes place in the most remote locations on the planet: the offshore frontier. These locations raise a number of questions, one of the most prevalent in our industry being equipment and personnel logistics.

Our industry could scarcely keep moving without the rarely glimpsed network of logistics, services, engineering and construction specialists working feverishly in the background to ensure that the operations of the oil giants run smoothly. In fact, it is through their anonymity that the success of these logistics providers can be measured; after all, the less we see the shifting equipment and replacement materials, rigs and personnel, the smoother the running of the business.

Helicopters are the preferred means of transport for personnel to and from offshore installations due to their speed, convenience and flexibility of use, even during severe weather conditions. Apart from these considerations, helicopter transport is seen as healthier and less hazardous with regard to reduced travel sickness and easier personnel transfer onto an offshore location compared with ship transportation.

From a health and safety perspective, helicopter travel to and from offshore localities generates one of the main sources of risk for personnel, particularly on the newer offshore units where other risks have been addressed and where helicopter transport may therefore be the dominant hazard. Indeed, at the start of 2007, seven men died when a helicopter ferrying workers between gas rigs in Morecambe Bay, Lancashire, crashed into the Irish Sea.

Risk reduction is gradually being witnessed to levels similar to other forms of air transport. The incidence of accidents is very low and risks to personnel are now comparable to those for flights in fixed-wing aircraft. There has been considerable economic investment and other improvements in installation and helicopter operators and their staff, which have had a marked effect on safety levels.

The potential hazards associated with helicopter transportation are risks to workers while they are in the air (passengers and aircrew) from collision impact, fire or drowning, and risks to workers on-board a unit due to helicopter impact with the installation and possible hydrocarbon events such as helifuel fires escalating to fires elsewhere.

John Krens, Logistics Supervisor for Shell Egypt, said: "We have to provide all supplies and equipment to the drilling rigs using supply vessels, while crew changes are usually carried out by helicopter. As a result, all crew members and visitors to the drilling rig must undergo emergency training in helicopter

underwater escape techniques... The drilling ship, the *Deepwater Expedition*, which is being used in Shell Egypt's North East Mediterranean Deepwater (NEMED) campaign, is positioned 185 kilometres offshore in over 2,400 metres of water... In addition, there is a continuous stream of visitors who need to be transported to the drilling ship..."

The causes of accidents can be split between aircraft mechanical failure and human factors, usually pilot error. Historically, most fatalities to passengers and crew have been from drowning as a result of mechanical failure leading to aircraft ditching in the sea.

Recently, aircraft systems have become more dependable and a greater percentage of incidents can now be attributed to human error, nearly all of which can be traced back to human factors at various stages: operational, maintenance, manufacturing or design.

Helicopter landing areas, whether on land or offshore, require areas suitable for lift-off, for the airborne part of the take-off manoeuvre and for touchdown. Offshore, the take-off and landing areas are co-located and there is no run-on area. Such an arrangement produces the smallest area overall where a helicopter can operate.

BP's health and safety executive (HSE) directive applies to all helicopter transport carried out for BP Norge (BPN), helicopter operations on all BPN-operated installations and contracted

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installations on the Norwegian continental shelf. Passengers who are waiting to board the helicopter must remain in a secure area indoors until they receive a boarding signal to enter the helideck. Waiting outside under the helideck is not permitted. On unmanned installations where this is not possible, the helideck crew will instruct the passengers where to wait. All access to the helideck is forbidden whenever there is a helicopter on the helideck, with the exception of necessary helideck crew and passengers entering or leaving the helicopter. In addition, a safety video is shown to all personnel before they leave the field centres.

Future improvements in helicopter safety offshore are most likely to be achieved through continuous improvements to:

- the design of helicopters by aircraft manufacturers;
- increased use of helicopter on-board monitoring systems;
- improved maintenance of aircraft;
- influencing human factors, helideck crew, radio operators and logistics staff; and
- designing and operating helidecks to take full account of operations on an installation.

Welfare matters may also require further attention. Helicopter travel is perceived by many offshore workers to be one of the most hazardous and stressful parts of their job.

Anything that can reasonably be done to reduce travel risks and to improve the welfare and comfort of passengers, including using new and quieter types of helicopter with more reliable control and operating systems and lower noise and vibration levels, seems likely also to improve the morale of workers and their perception of the risks of working offshore. In deciding whether to invest the considerable sums of money required when buying new models of helicopter, the benefits to staff in terms of improved health, safety and welfare should be considered alongside the reduced operating costs that can be expected.

CHC Helicopter Corporation has been awarded two major contracts by Statoil ASA, Norway, for the provision of helicopter services in the

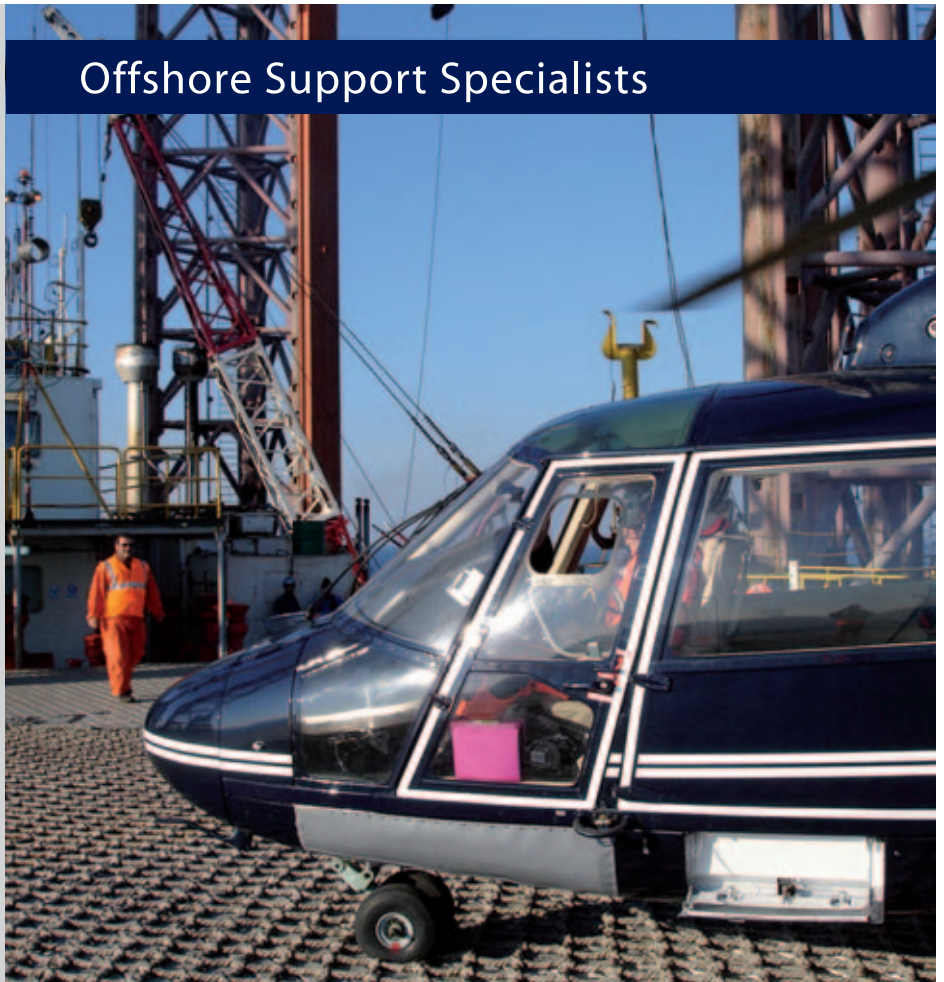
Figure 1: Passengers Disembarking Following a Helicopter Transfer



Norwegian Sea. The company believes the award represents the largest bundle of helicopter service contracts ever awarded. The award covers a five-year contract for the provision of five Sikorsky S-92 and two Eurocopter EC225 aircraft in support of Statoil's offshore operations based out of Floroe and Bergen, Norway, plus an additional back-up Eurocopter AS332L2 in Bergen. The operation in Floroe will begin in June 2009, and the contract in Bergen in January 2010, as well as a seven-year contract for the provision of two all-weather Search and Rescue EC225 aircraft. One helicopter will be based at Statoil's Staffjord field in the North Sea, and the other in Bergen as back-up for this service. Beginning in March 2009, the contract includes options for up to four additional years. ■



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