



A HELICOPTER FLIGHT

THIS BROCHURE WILL PROVIDE
YOU WITH INFORMATION ABOUT
TAKING A HELICOPTER FLIGHT



Following the recent helicopter incident at Turøy, the Norwegian Oil and Gas Association has prepared this brochure in order to give passengers an insight into the systems behind a helicopter flight.

Additional information can be found on the Norwegian Oil and Gas website at www.norskoljeoggass.no

GENERAL INFORMATION

A UNIQUE COLLABORATION A unique forum has been established in Norway to ensure good collaboration on helicopter safety.

The government, the operators, the unions and the oil companies are all represented on this body, which is widely regarded as a key success factor for the helicopter industry in Norway.

It is chaired by the Norwegian Civil Aviation Authority (CAA-N).

HELICOPTER OPERATORS

All helicopter operators on the Norwegian continental shelf (NCS) must be approved by the Civil Aviation Authority (CAA-N). This means they must have the personnel, the helicopters, the training, the system knowledge and the other requirements needed for a permit to operate passenger flights.

CIVIL AVIATION AUTHORITY

The authority frequently audits the helicopter operators and their personnel to verify that all permit requirements have been met in accordance with the specified standard. The oil companies also inspect the helicopter operators on a regular basis.

HELICOPTER

The helicopter manufacturers must have approvals from their national aviation authority for

building new helicopters and for modifications of current machines. Helicopters are manufactured in accordance with strict rules for design, quality and functionality.

HELICOPTER MAINTENANCE

All helicopters must operate in accordance with a systematic and approved maintenance programme. The entire machine is inspected at regular intervals by certified technicians. This maintenance takes place in many stages, from small daily checks to a comprehensive main inspection.

The helicopter is inspected before and after every flight, and a more comprehensive inspection takes place before its first flight of the day. Successive checks then occur every 25, 50 and 75 hours and so on until the big main inspection falls due.

With the latter, the helicopter is completely disassembled so that every part can be checked in detail. Since most of these components will be replaced during the process, the end result for all practical purposes is a "new" helicopter. In the smaller inspections, a defined area is checked and particular parts replaced at fixed intervals. Non-critical parts are changed when their condition requires this.

All inspections are carried out on the basis of approved descriptions and checklists. More than one technician is always involved in order to comply with the system for double-checking the items inspected. When a part is replaced, one technician signs that the work has been completed to the defined standard. A second technician must sign to verify this.

All maintenance documentation must be stored in fireproof locations. This means that a complete maintenance history exists in detail for each helicopter. Should the helicopter fail to pass an inspection for some reason or develops a problem which cannot be fixed, it is grounded as not airworthy. Mandatory test flights are conducted after all inspections before passenger flights begin.

PILOTS

All pilots operating on the NCS are handpicked and must meet defined minimum requirements for previous experience and actual flying hours. The hiring process can be compared to the selection of air force pilots.

Pilots must be certified for the type of helicopter they will be operating, and are thoroughly tested twice a year in a flight simulator. They must pass a medical examination once a year until they reach the age of 40, and twice a year after that.

NORWEGIAN OIL AND GAS

The Aviation Forum is a subsidiary body of Norwegian Oil and Gas, and comprises representatives from the oil companies who all have a varied aviation background – from pilots and engineers to aviation safety experts.

Norwegian Oil and Gas has developed guidelines for helicopter operation on the NCS which supplement the requirements of the CAA-N. All helicopter operators must comply with these.

PLANNING

The helicopter companies operate on fixed routes to and from the offshore installations. These routes are planned in collaboration with the oil companies. Having a fixed flight schedule permits long-term planning of helicopter maintenance and pilot rosters. Flight programmes are planned well in advance.

Day-to-day activities are run by the helicopter companies through their operations centres, which coordinate flights with the oil companies' own operation centres and with Avinor, the state-owned air traffic services provider. All flights must be filed with Avinor in advance so that it can plan and execute safe and effective management of all air traffic.

AT THE HELIPORT

After it has been inspected by the technicians, the helicopter is towed to the apron outside the helicopter terminal for a final check and refuelling if required. The pilots then go aboard after planning the flight in detail.

The pilots are also required to carry out a final check of the helicopter and sign the technical log to show that it has been accepted for flight. The captain is now responsible for the helicopter, the passengers and the cargo, and for conducting the flight as planned. Passengers go through the check-in procedures at the terminal before boarding.

After starting up the helicopter, the pilots taxi to the runway for departure. They carry out various pre-takeoff checks in accordance with approved checklists. The pilots work as a team, double-checking each other's work during all phases of the flight.

Helicopter passengers are subject to noise and vibration. The first thing you notice on start-up is the jet turbines accelerating, followed by the main and tail rotors generating vibration and noise. Both noise and vibrations will vary with the speed of the rotors throughout the flight.

AIRBORNE



After receiving takeoff clearance from the control tower, the pilots lift the helicopter into a hover a few metres above the runway. The instruments are checked and the pilots initiate takeoff.

Speed increases throughout this process and the efficiency of the rotors thereby rises. That will cause changes in both vibration and noise during takeoff and when climbing to cruising altitude. After takeoff and at predefined points throughout the flight, the checklist is used to confirm that various items have been scrutinised and are good to go.

Once takeoff has been completed, the autopilot is engaged and manoeuvres the helicopter on the basis of pilot input to the flight computer. Both pilots check all these entries. Using the autopilot reduces pilot workload, allowing them to concentrate on monitoring instruments, radio communication and other traffic in the area.

Equipment in the helicopter will automatically warn the pilots of other traffic. All helicopters are equipped with transponders which communicate with radar services to check position, speed and altitude. They also carry GPS systems used by the operator's control centre to track flight progress.

EN ROUTE



The pilots maintain radio contact with air traffic services throughout the flight. A lot of weather can be encountered offshore, depending on the time of year. All helicopters are designed to cope with turbulence far beyond passenger discomfort levels.

All rotors are deiced. This is particularly useful, not only during the winter season but also in summer when flying at high altitudes. The pilots may alter the cruising altitude en route in response to weather conditions. That will cause changes in noise and vibration levels.

LANDING ON A PLATFORM HELIDECK

The pilots will prepare for landing and communicate with the platform to obtain details about return loads and request possible refueling. The checklist is completed and the wheels are extended.

The pilots get clearance to land from the helideck crew, and air traffic services are informed of the landing. Speed is reduced when approaching the platform, which again causes changes to noise and vibration.

Just before landing, particularly in light winds, the helicopter may vibrate a lot as it backs into its own turbulence from the main rotor. It is always landed with its nose into the wind. The pilot closest to the helideck will manually manoeuvre the helicopter into position and land. The autopilot is turned off before the helicopter approaches the helideck.

Turbulence may sometimes be encountered over a helideck owing to the platform's structure. The various helidecks have defined limitations on wind strength and direction for landing and take off. These are checked during pre-flight planning by the pilots, who may also cancel departure at this stage because of excessive wind (turbulence).

After touchdown on the helideck, the cabin door is opened from the outside, and you can disembark before walking to the arrival area on the platform.



Have a nice flight!