

OffShore Helicopter Safety Statistics

1. The sector in context

Overall figures for UK Public Transport Helicopters (all risk grades)

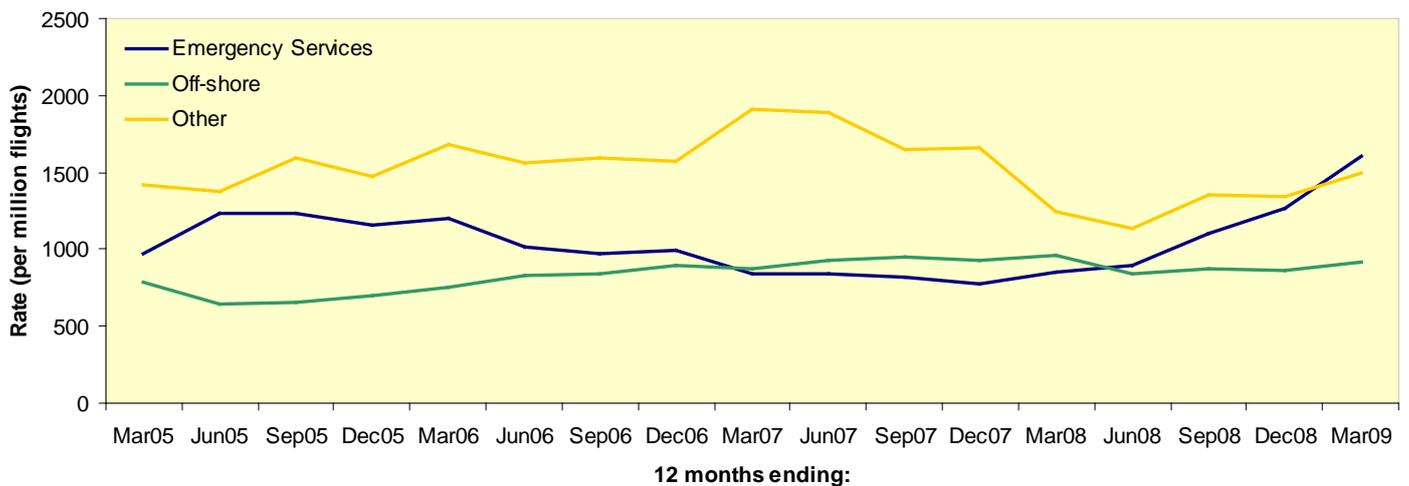


Figure 1: Rate per million flights of UK public transport helicopter occurrences (12 month rolling average)

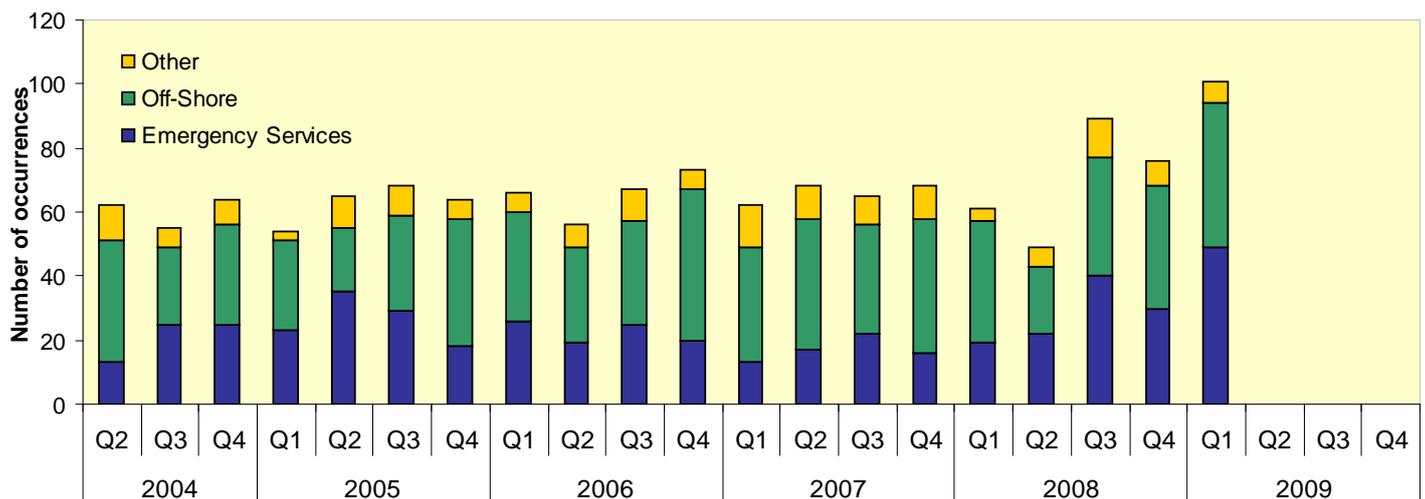


Figure 2: Number of UK public transport helicopter occurrences per quarter

Overall figures for UK Public Transport Helicopters (high-risk grades)

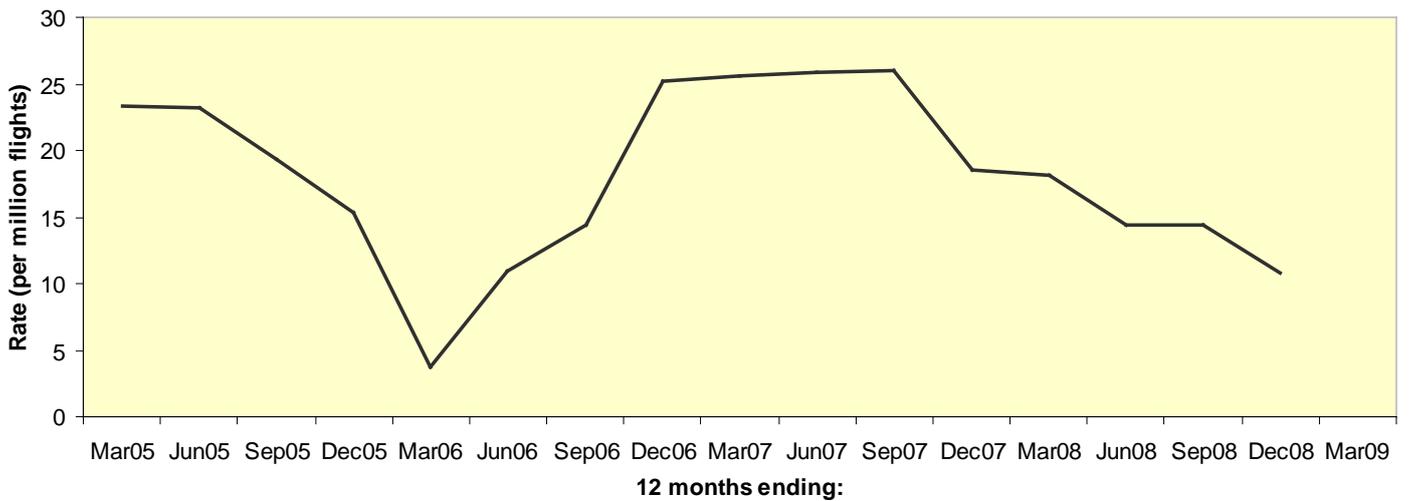


Figure 3: Rate per million flights of high-risk UK public transport helicopter occurrences

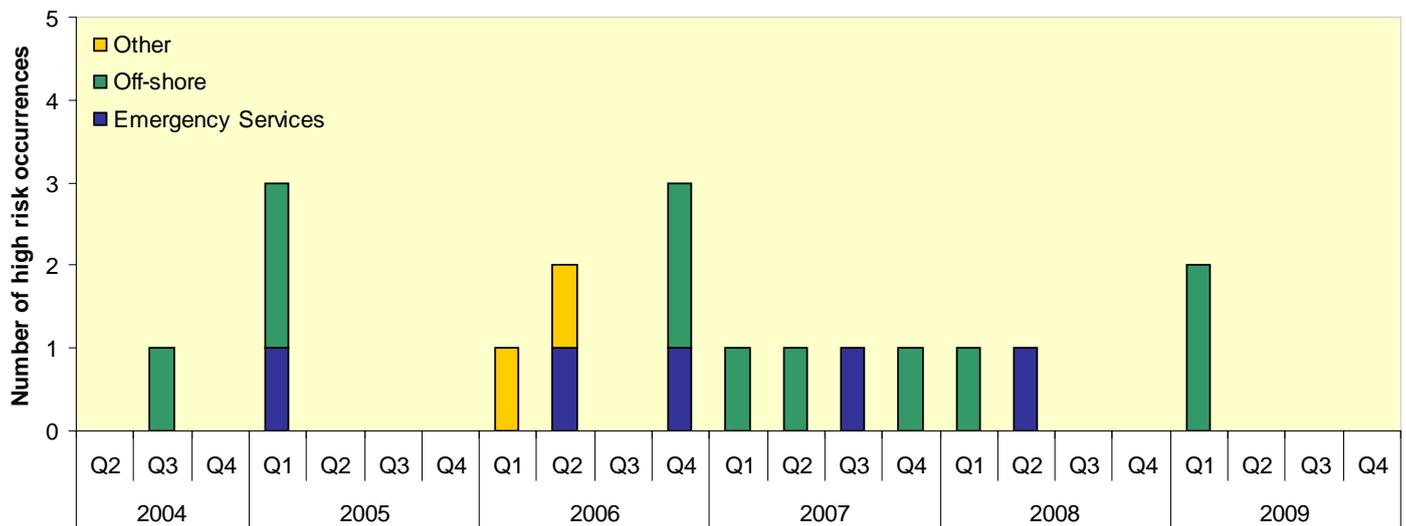


Figure 4: Number of high-risk UK public transport helicopter occurrences per quarter

2. Offshore Helicopter Types of Occurrence

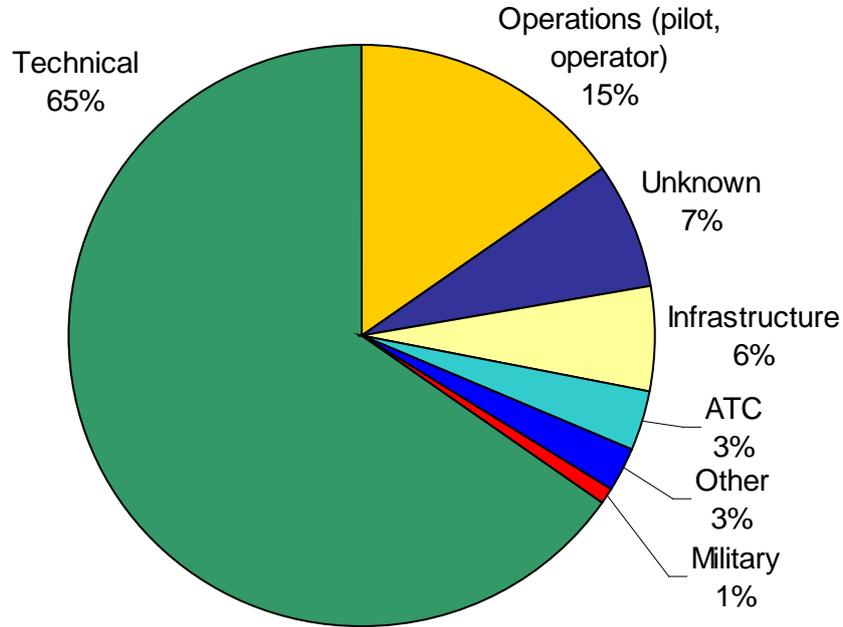


Figure 5: Primary Cause of Occurrence

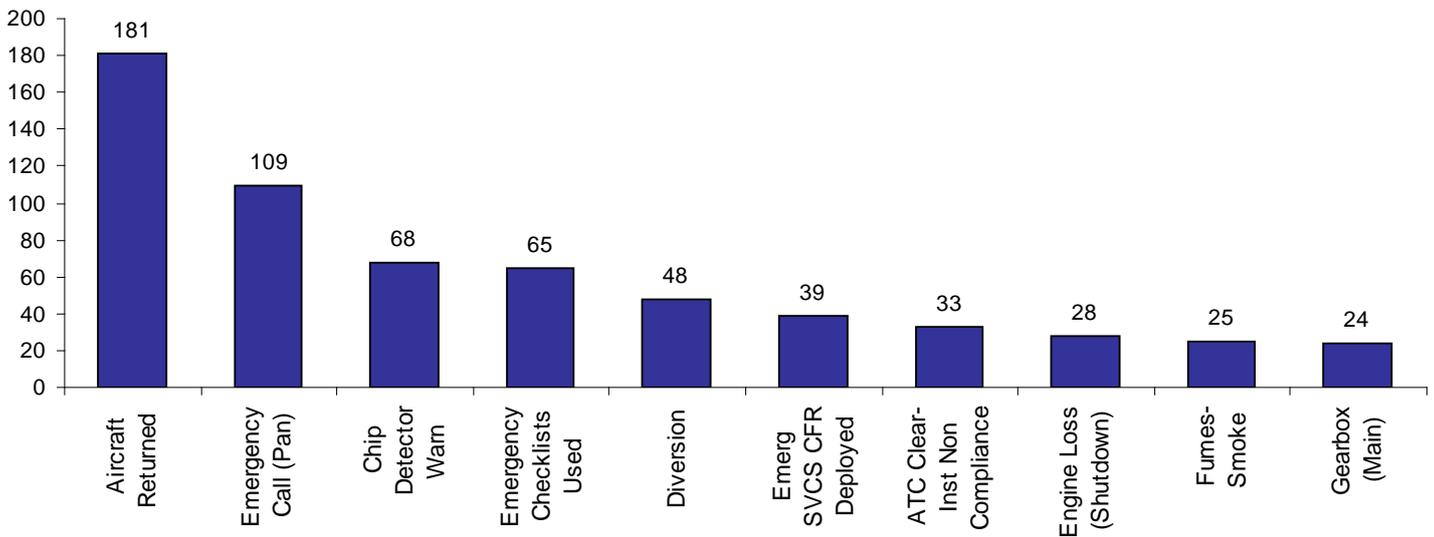


Figure 6: Ten Most Common Occurrence Descriptions

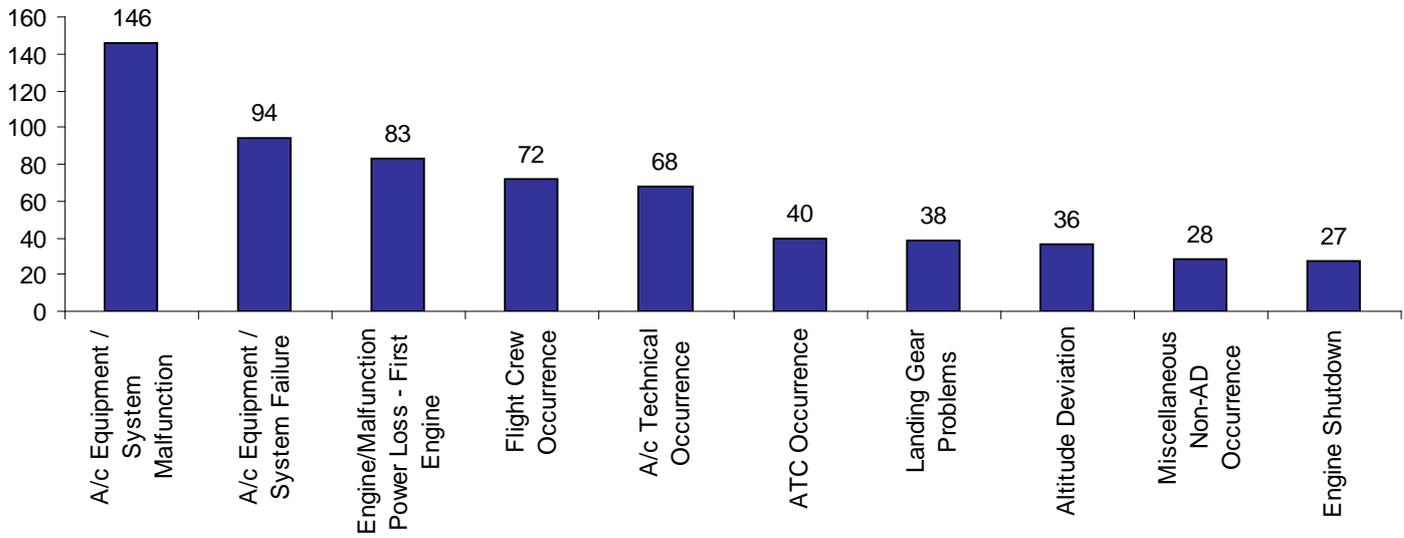


Figure 7: Ten Most Common Event Descriptions (consequences and post-event actions removed)

3. High Risk Events

A/C Type :	Sikorsky S61	Occurrence Number :	200406638
Flight Phase :	Hover	Occurrence Date :	15 Sep 2004
Classification :	UK Reportable Accident	Location :	Tanker, 'Aral Sea'
Events :	Flight Crew Occurrence Reportable Accident Collision - Ground/Water/Object (Not CFIT Not AD)	Location Info :	Sullom Voe

Pretitle :

During winch transfer of a pilot to a tanker, underside of main rotor contacted a mast. All 4 blades damaged. No injuries. AAIB Field investigation.

Precis :

AAIB Bulletin 5/2005, ref: EW/C2004/09/03 - Summary: During a winching operation, the rotors of G-BDOC struck the top of a mast on the deck of the receiving ship. The helicopter recovered safely to Scatsta Aerodrome. The investigation revealed some misunderstandings between the helicopter operator and the maritime operator about the winching deck markings on the ship. Accordingly, four Safety Recommendations (2005-027 to 2005-030) have been made to the CAA and to The International Chamber of Shipping (ICS) to ensure that aircraft and ship crews are aware of the information required before undertaking winching operations. Shortly after the accident, the helicopter operator instituted revised rules to clarify the information required before any winching operation.

A/C Type :	Bell 212	Occurrence Number :	200500598
Flight Phase :	Approach	Occurrence Date :	25 Jan 2005
Classification :	Occurrences	Location :	Nouakchott
Events :	Airprox - Foreign	Location Info :	

Pretitle :

Foreign AIRPROX - Bell 212 and an ATR42. Subject to investigation by the Mauritanian authority.

Precis :

Bell 212 was cleared 1500ft SVFR and to report left base for R/W05. Approximately 10nms out, Bell 212 was given another clearance to finals Nr 1. ATC were also talking in local language to an ATR42 that was calibrating the ILS. At approximately 4nms final, Bell 212 was overtaken by ATR42. After landing, ATR42 stated being aware of the Bell 212 on finals, but ATC failed to pass traffic info to Bell 212. In a subsequent meeting with ATC, the necessity to translate all traffic info and pass to each participating a/c in order to maintain separation was highlighted by the operator.

A/C Type :	SA332 Super Puma	Occurrence Number :	200501491
Flight Phase :	Cruise	Occurrence Date :	02 Mar 2005
Classification :	Occurrences	Location :	Oil Rig
Events :	UK Airprox Loss of Standard Separation	Location Info :	28 ENE

Pretitle :

UK AIRPROX 23/2005 - Two AS332Ls, 28nm ENE of Aberdeen at 2000ft. Loss of standard separation.

Precis :

Both flights were being provided with a Modified RAS by the Aberdeen Offshore (Hels) Controller. AS332L(1) was inbound to Aberdeen at the standard altitude of 2000ft. Because of icing conditions, AS332L(2) had requested to route out at 2000ft instead of the usual 3000ft. This resulted in the tracks of the two helicopters conflicting at the same altitude. The controller was aware of the conflict and intended descending the inbound AS332L(1) to 1000ft. However, he allowed himself to be distracted from the task and did not carry out his plan. He only became aware of the situation when the pilot of the inbound reported passing close to traffic at the same level, opposite direction. The helicopters were not fitted with TCAS and Aberdeen is not equipped with STCA. Appropriate ATC personnel action taken. This occurrence was the subject of a separate review by the UK Airprox Board - see AIRPROX report No. 023/05.

A/C Type :	SA332 Super Puma	Occurrence Number :	200609321
Flight Phase :	Take Off	Occurrence Date :	13 Oct 2006
Classification :	UK Reportable Accident	Location :	Aberdeen (ADN)
Events :	Undiagnosed Vibration Engine Shutdown Rejected Take-Off Contingency A/c Structure Failure / Malfunction	Location Info :	

Pretitle :

AAIB Initial Notification: Take off rejected due to severe vibration following loud bang. Main rotor head spindle fractured. No injury to 13 POB. Subject to AAIB Field investigation.

A/C Type :	SA365 Dauphin	Occurrence Number :	200611599
Flight Phase :	Initial Climb	Occurrence Date :	27 Dec 2006
Classification :	UK Reportable Accident	Location :	Morecambe Bay
Events :	Reportable Accident	Location Info :	
	Loss of A/c Control		
	Flight Crew Occurrence		
	Collision		
	Ground/Water/Object (Not CFIT Not AD)		
	Adverse Weather		

Pretitle :

UK Reportable Accident: Helicopter seen to descend into sea close to offshore platform. Seven POB fatal. AAIB Formal investigation.

Precis :

The helicopter departed Blackpool at 1800hrs on a scheduled flight consisting of eight sectors within the Morecambe Bay gas field. The first two sectors were completed without incident but, when preparing to land on the North Morecambe platform, in the dark, the helicopter flew past the platform and struck the surface of the sea. The fuselage disintegrated on impact and the majority of the structure sank. Two fast response craft from a multipurpose standby vessel, which was on position close to the platform, arrived at the scene of the accident 16 minutes later. There were no survivors amongst the five passengers or two crew. The investigation identified the following contributory factors: 1) The co-pilot was flying an approach to the North Morecambe platform at night, in poor weather conditions, when he lost control of the helicopter and requested assistance from the commander. The transfer of control was not precise and the commander did not take control until approximately four seconds after the initial request for help. The commander's initial actions to recover the helicopter were correct but the helicopter subsequently descended into the sea. 2) The approach profile flown by the co-pilot suggests a problem in assessing the correct approach descent angle, probably, as identified in trials by the CAA, because of the limited visual cues available to him. 3) An appropriate synthetic training device for the SA365N was available but it was not used; the extensive benefits of conducting training and checking in such an environment were therefore missed. Six Safety Recommendations (2008-032 to -037) have been made. See AAIB AAR 7/2008, ref: EW/C2006/12/03.

A/C Type :	Eurocopter EC155	Occurrence Number :	200702047
Flight Phase :	Parked	Occurrence Date :	10 Mar 2007
Classification :	Serious Incidents	Location :	Norwich
Events :	A/c Equipment / System Malfunction Fire (not engine)	Location Info :	

Pretitle :

As a/c was being refuelled on ramp with rotors running, small fire occurred at connector for electric hoist. Power supply shorted to connector due moisture ingress via seal. AAIB Field investigation.

Precis :

AAIB Bulletin 11/2007, ref: EW/C2007/03/02 - Summary: The aircraft was being refuelled on the ramp with the rotors running when a localised fire broke out in the area of the external connector for the electric hoist, on the upper right side of the fuselage. The fire went out as soon as electrical power was removed on shutting down the engines. The investigation established that the fire was caused by the 28 volt DC electric hoist power supply shorting to the body of the hoist's fixed electrical connector and earthing through the carbon fibre composite fairing on which the connector is mounted. The short was probably caused by moisture ingress into the connector due to a damaged seal. A contributory factor was that the connector is always live whenever the electrical system is powered. Three Safety Recommendations (2007-072, -073 and -074) are made to the aircraft manufacturer.

A/C Type :	Sikorsky S92A	Occurrence Number :	200703444
Flight Phase :	Cruise	Occurrence Date :	23 Apr 2007
Classification :	Serious Incidents	Location :	North Sea
Events :	Undiagnosed Vibration A/c Structure Failure / Malfunction Emergency Call Diversion /Return Contingency	Location Info :	

Pretitle :

PAN declared due to severe vibration. Precautionary descent and diversion carried out. Tail rotor blade pivot bearing detached due to bearing retainer disbond. AAIB Field investigation.

Precis :

AAIB Bulletin 4/2008, ref: EW/C2007/04/07 - Summary: The helicopter was on a public transport flight to offshore platforms in the North Sea and was over water, approximately 65nm north-east of Aberdeen, when a heavy vibration commenced, which continued until the end of the flight. The crew turned back towards the coast and a successful run-on landing was completed about 30 minutes later. The vibration was found to have been caused by the detachment of a tail rotor blade pivot bearing following a disbond of the bearing retainer from the flexible spar of the blade. Inspections of other S-92 helicopters highlighted other disbonded bearing retainers. Until a final fix is implemented, the helicopter manufacturer has increased the pivot bearing inspection frequency and provided more detailed instructions for inspecting the bearings.

A/C Type :	SA332 Super Puma	Occurrence Number :	200712392
Flight Phase :	Taxi	Occurrence Date :	14 Dec 2007
Classification :	Serious Incidents	Location :	Aberdeen (ADN)
Events :	Landing Gear Problems Loss of A/c Control Flight Crew Occurrence	Location Info :	

Pretitle :

Nosewheel locking pin became engaged during taxi. AAIB AARF investigation.

Precis :

CAA Closure: Whilst ground taxiing, the crew, when unable to turn left, became aware that the nose wheel locking pin had become inadvertently engaged. In an attempt to disengage the pin, collective pitch was increased with the intention of reducing the pressure acting on it. The aircraft became unstable, rolling then pitching excessively before it could be brought under control. The operator carried out a thorough investigation of the incident and has made several recommendations, including: changes to the checklist relating to the nosewheel locking pin; reinforcing amongst crews the need for discipline when using checklists; improved training on the use of the nosewheel locking pin and in particular the actions to be taken should it be found to be inadvertently locked during taxi; introduction of procedures for ground crew to check the locking pin flag position prior to taxi; proposed improvements to the positioning and ground handling of aircraft on the company apron to provide better clearance between them; improvements to the handling of data after an incident or accident. See AAIB Bulletin 6/2008, ref: EW/G2007/12/08.

A/C Type :	SA332 Super Puma	Occurrence Number :	200800439
Flight Phase :	Landing	Occurrence Date :	13 Jan 2008
Classification :	Occurrences	Location :	Oil Rig
Events :	Turbulence Problems Loss of A/c Control	Location Info :	

Pretitle :

Aborted landing on offshore platform carried out from 10ft due to severe turbulence leading to loss of cyclic and tail rotor control. Potential hazard.

Precis :

A/c (weight 8.2 tonnes) tasked to land on the FOR A offshore platform with wind velocity (W/V) reported as 190 deg, 37 kts gusting 44 kts. Restricted landing arc on the FOR A in HLL is 175 to 205 deg. Landings are prohibited with W/V above 45 kts and when the W/V is between 25-45 kts the MLW is restricted to 8.9 tonnes. A final approach was flown to the deck with caution as moderate turbulence was expected. Also the FOR A obstacle environment had been altered with the addition of a new turbine housing located approximately 190 degrees from the helideck. At approx 20ft above the deck, severe turbulence resulted in a temporary loss of tail rotor control, which was recovered at approximately 10ft above the deck. This was followed by severe turbulence at 10ft leading to a loss of cyclic and tail rotor control, to the point that the a/c was no longer responding correctly to cyclic and pedal inputs. As an uncontrollable impact with the deck was imminent the landing was aborted and full collective applied to clear the deck and transition to forward flight. The reporter considers that the addition of the new turbine housing on this deck presents an unacceptable risk to the a/c operating within the current HLL limitations. A/c weighed 8.2 tonnes during this approach but in accordance with the HLL a/c could have operated up to 8.9 tonnes. The operator has examined the flight data and determined that the aircraft, though subjected to considerable turbulence, was responding to pilot control inputs and not therefore 'out of control' as reported in the MOR. A Temporary Limitation Notice that was imposed immediately after the occurrence has since been lifted. Additionally, the rig operator has been requested to follow up the rig modification process to determine why rig design 'best practice' (CAP 437) was not followed, and to encourage crews to report unexpected changes to rig helideck areas.

A/C Type :	SA332 Super Puma	Occurrence Number :	200900783
Flight Phase :	Initial Climb	Occurrence Date :	27 Jan 2009
Classification :	Occurrences	Location :	Forties Bravo
Events :	Loss of A/c Control Flight Crew Occurrence	Location Info :	North Sea

Pretitle :

Go-around switch selected below recommended airspeed during initial climb. A/c pitched approx 35deg nose up and airspeed reduced to zero. A/c recovered manually.

Precis :

The a/c had lifted from the helideck of an offshore platform and was clear of the structure, climbing and accelerating. The Captain (handling) pressed the go-around button at an airspeed of approx 65kts, which is below recommended airspeed. At this point, the a/c pitched approx 35deg nose up, the 'GA' coupler dropped out and airspeed reduced to zero. The cyclic was pushed forward, to increase airspeed and maintain height, causing the a/c to pitch approx 30deg nose down. Airspeed took a long time to increase; full manual control was established and the a/c was restored to normal flying attitude.

A/C Type :	Eurocopter EC225	Occurrence Number :	200901483
Flight Phase :	Approach	Occurrence Date :	18 Feb 2009
Classification :	UK Reportable Accident	Location :	North Sea
Events :	Reportable Accident Collision - Ground/Water/Object (Not CFIT Not AD) Poor Visibility	Location Info :	Nr ETAP Platform

Pretitle :

UK Reportable Accident: A/c descended into the sea close to offshore platform. All 18 occupants rescued. A/c remained afloat but tail cone separated and sank. Subject to AAIB Field investigation.

Precis :

Shortly before commencing the approach, the crew were informed that weather conditions had deteriorated, with visibility reducing to 0.5nm and cloud base to 500ft. At a range of approx 13nm, the platform was sighted and the crew agreed to descend to 500ft and conduct a visual approach using weather radar to assist with range information. A further descent was then initiated but on passing 400ft the helicopter entered a bank of fog. The a/c returned to 500ft where the gas flare and platform lights could be seen but not the helideck, which has an elevation of 166ft. At a distance of 0.75nm from the platform, the commander disengaged the autopilot hold modes to fly the helicopter manually. The crew then suspended the 'Check Height' audio warning. The helicopter commenced a turn to the left and began to descend and reduce speed. When it rolled out of the turn visibility appeared to have reduced but the crew could still see the bright glow of the gas flare. The co-pilot was visual with what he believed was the platform's helideck lighting as well as the platform lights and the commander was visual with what he believed were the platform lights but could not identify the helideck. Shortly after that the aircraft landed heavily on the surface of the sea. All the passengers and crew survived the accident with a few minor injuries and were rescued within two hours. The helicopter's tail boom detached from the main structure on impact and subsequently sank. The remainder of the fuselage continued to float but later became inverted before being recovered from the sea. The tail boom, containing the CVFDR and TAWS computer, was located on the seabed and was also recovered along with some other items of wreckage, including the left main door. See AAIB Special Bulletin S3/2009.
