No: 2/84 **Ref: EW/C859**

Aircraft type and registration:	Bell 212 G-BARJ (heavy helicopter – public transport)	
Year of manufacture:	1973	
Date and time (GMT):	24 December 1983 at 1200 hrs	
Location:	Brent Oil Field	
Type of flight:	Training	
Persons on board:	Crew – 2	Passengers – Nil
Injuries:	Crew – 2 (1 serious, 1 minor)	Passengers – N/A
Nature of damage:	Aircraft destroyed	
Commander's Licence:	Airline Transport Pilot's Licence (Helicopters)	
Commander's Age:	35 years	
Commander's total flying experience:	5163 hours (of which 1630 hours were on type)	

The aircraft was on a winching training flight in the Brent Field. It had been necessary to restrict the crew to one pilot and one winch operator in order to remain below the maximum single engined hover weight. The wind was less than 10 knots and there was a 4–5 metre irregular swell with the occasional larger wave.

After completing four practice drum lifts the aircraft obtained clearance to carry out practice winching over the deck of the HUDDERSFIELD TOWN – the Brent Charlie stand-by vessel. The winching area at the stern of the vessel was a 20 feet diameter yellow circle which was bordered around its aft edge by a fixed guard rail consisting of nine stanchions 3½ feet high positioned 4½ feet apart with three rails between each. The aircraft winch was located (as usual) in the forward starboard position and the winch operator was sitting in the starboard cabin doorway with the door locked open. As the stern of the vessel was approached the winch hook was lowered with a ballast weight attached to it by a piece of flat webbing approximately one foot long. A satisfactory hover was maintained at a height of 20–30 feet for a period of 1–2 minutes with the hook over the centre of the winching area. The stern of the vessel then began to corkscrew in a larger swell and the deck rose allowing two turns of the cable to collect on the deck. The winch operator winched in and as the stern dropped into a deep trough the cable swung aft allowing the hook to contact the guard rail which was not protected by canvas 'dodgers'. The ballast weight and cord wrapped around the middle guard rail and immediately pulled taut, causing the aircraft to roll to the right and pitch nose-down until the pilot had full left cyclic applied. The aircraft dived into the sea alongside the vessel in an attitude approximately 45° nose-down. Both the crew and a witness on the ship estimated that the elapsed time between the cable attaching to the rail and the aircraft hitting the sea was approximately 3–4 seconds.

The helicopter immediately inverted with the emergency flotation equipment partially inflated. Both of the crew released their harnesses and scrambled to the surface as best as possible although both were disorientated and while underwater had great difficulty in finding a way out of the wreckage. The pilot sustained injuries to his left knee, extensive cuts and bruising to his right forehead and other cuts and bruises. The winch operator was fortunate to receive relatively minor cuts and bruises.

Neither of the crew had time to operate the emergency cable cutter before the aircraft hit the sea. The pilot's cable cutter switch was positioned approximately in the middle of the centre console and operation of the switch would have required him to remove his left hand from the collective lever. The winch operator's cable cutter switch was on the body of the winch whereas the normal winch function switches were on a separate pendant (remote control) handgrip. There was no mechanism within the winch to off-load the cable tension when loads were applied which were in excess of the 600 lb maximum authorised.

Examination of the wreckage showed that the cockpit structure had been totally torn away by the impact, disrupting the instrument panel but leaving the floor area basically intact. Both pilot's seats had been forced rearwards off the floor rails and only the co-pilot's seat was recovered. The starboard cabin door was still locked in the open position providing an ample emergency exit although none of the door apertures featured luminous markings or emergency lighting to facilitate underwater escape. The main rotor mast and upper part of the main gearbox had detached and were not recovered. The pipework from the

emergency flotation cylinder had been severely disrupted close to the cylinder outlet solenoid valve and during salvage the cylinder was observed to fall away from the helicopter discharging its remaining nitrogen with a 'bang'.