1 Work in pairs. Discuss the following questions. Then read the text to check your answers.

1 What do the abbreviations ETOPS and LROPS stand for? Can you guess?
2 Can a passenger jet with two engines fly on any route in the world?
3 What is the maximum time permitted for a twin-engine to reach a diversionary airport in an emergency?

From ETOPS to LROPS?

A safety regulation governing the operation of twin-engine aircraft was first adopted in 1953 by the FAA (Federal Aviation Agency). This regulation stated that these aircraft should be no more than a maximum of 60 minutes flying time away from an alternate (a diversionary airport). The ruling effectively excluded twin-engine aircraft from certain routes. It was considered dangerous to fly for long distances over sea, a desert or an otherwise inhospitable area in an aircraft with just two engines, in case one of them should fail. As jet engine reliability improved, this maximum diversion time permitted for a twin-engine gradually increased. Outside of the US, the ICAO (International Civil Aviation Authority) regulation, which granted a maximum diversion time of 90 minutes, became the norm.

The term ETOPS (Extended Range Twin-engine Operations) dates from 1985, when the FAA, followed a short time later by the ICAO, extended the diversion time to 120 minutes. The justification for doing so was the continuing development in technology and improvements in engine reliability. This was a significant step because it allowed twin-engines to cross the Atlantic. Just a few years later the time was extended to 180 minutes. This regulation means that twin-engines, which meet the strict certification criteria, can fly across 95% of the world's surface. Such aircraft are known as ETOPS-180 certified.

The new term which is being discussed now is LROPS (Long Range Operations) which would be a certification granted regardless of the number of engines on an aircraft. One of the main reasons for introducing a new certification standard, that would envisage much greater maximum diversionary times (as high as eight hours), would be to allow aircraft to fly more direct routes, sometimes taking them over the north and south poles. Even when a possible diversionary airport exists near the polar regions, the extreme temperatures on the ground make a diversion dangerous. Some experts believe that LROPS could be a suitable standard for the new Airbus A380. Failure of one of its four engines would not cause any serious problem. Most diversions nowadays, however, are for reasons other than engine failure. In any medical emergency the passenger concerned might have to wait a long time to get to hospital. The medical equipment on board, the training of the flight crew to deal with medical emergencies and the availability of a medical advisory service would all be necessary conditions for LROPS certification.

2 Match the following words to make collocations used in the text. Then check your answers.

1 advisory	a regulation
2 certification	b area
3 diversion	c reliability
4 engine	d standard
5 extreme	e service
6 inhospitable	f time
7 medical	g temperatures
8 safety	h emergency

3 Work in pairs. Without looking at the text, explain the meaning of each collocation in Activity 2.

4 Would you board an aircraft knowing that during the flight you might be eight hours away from a safe landing?