

Altitude and Hypoxia Awareness Training –

Preparation for Transatlantic Flights with the Dornier 228 NG

Two crews prepare for transatlantic flights from Praia (Cape Verde Islands) to Natal (Brazil) with ten Dornier 228 NG - their final destination will be Venezuela. Due to performance limitations of the airplanes these long distance flights (1443 NM) across the South Atlantic can be realized only in high altitudes. Depending on weather conditions (wind / clouds) it will be mandatory to fly for several hours in FL 200 - 240.

Flying at high altitude without pressure cabin causes various stresses for the crew. Altitude hypoxia will be addressed first, but also altitude decompression sickness should not be underestimated as a significant risk on this flight path.

In cooperation with the Institute of Aerospace Medicine (German Aerospace Center) experts from the department of Flight Physiology and the Flight Medicine Clinic have developed a specific training for the crews. This "Altitude and Hypoxia Awareness Training" combines theoretical education with practical trainings. The lectures illustrate the different risks and inform the crews about possible countermeasures. The practical trainings consist of an exposure to hypoxia - with oxygen reduced breathing gas - and a "hands-on training" in one of the altitude simulation facilities of the institute. In the chamber the crews test their oxygen equipment at different simulated flight levels; individual oxygen consumption is measured as well as effects of physical activity and other disturbing factors.

During the debriefing a detailed protocol for flight preparations (e.g. oxygen prebreathing) and flight planning is presented to the crews.

As the flights are planned to take place between December 2014 and March 2015 this talk also will report about the outcome of this ambitious project.