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From: CAA Press Office

Sent: 29 May 2009 09:36

To: CAA Press Office

Subject: CAA research paves the way for more people with colour vision deficiency to become pilots

CAA RESEARCH PAVES THE WAY FOR MORE PEOPLE WITH COLOUR VISION DEFICIENCY TO BECOME PILOTS

The UK Civil Aviation Authority (CAA) has today published research, co-sponsored by the CAA and the US Federal Aviation Administration, on the minimum colour vision requirements for professional flight crew. The research was conducted by the Applied Vision Research Centre, City University London, UK.

The aim of the study was to investigate new methods for accurate assessment of colour vision, in order to provide improved guidelines for minimum colour vision requirements for flight crew that are both safe and fair to applicants.

Around eight per cent of men and less than one per cent of women have some form of colour vision deficiency. This includes either red-green colour deficiency, which can vary in severity, or the more rare yellow-blue colour deficiency that affects around one person in 20,000.

The International Civil Aviation Organization (ICAO) requires countries to maintain a colour standard to ensure that pilots can recognise the colour of signal lights used in aviation. The primary signal colours in aviation are red, green and white, with blue and yellow as supplementary colours.

Adequate colour vision requirements are needed to ensure that flight crew are able to discriminate and recognise different colours, both on the flight deck and externally.

Current colour vision requirements are open to interpretation and often vary between countries. At present there is no clear, defined limit that specifies the class and severity of colour deficiency beyond which the applicant is no longer safe to fly. This is partly due to the varied task requirements and the technological advances in the use of colour in the aviation industry.

Under the current guidelines, individuals with minimal colour deficiencies will often fail traditional tests, with many therefore being prevented from training as pilots. However, some of these individuals may be able to perform safety critical tasks just as well as those with normal colour vision.

The CAA's study employed an innovative Colour Assessment and Diagnosis (CAD) test, developed at City University London, to provide an accurate and thorough assessment of the applicant's colour vision. The results of the test

establish, with a high degree of accuracy, whether the subject's red-green and yellow-blue colour vision falls within the normal range. The test also identifies the class and severity of any colour vision deficiency. Based on the findings from the study the CAD test indicates whether the applicant's colour vision meets the minimum requirements for flight safety.

Professor John Barbur, City University London, said: "This is a novel and significant development with applications in demanding occupational environments such as aviation, fire fighting, police service and rail and maritime transportation. The new research findings also have important implications in the public health arena by preventing loss of vision through early detection of diseases of the eye."

Dr Sally Evans, Chief Medical Officer at the CAA, said: "The current diversity in colour vision testing methods and standards demonstrates the need to adopt more objective assessment techniques internationally. If the assessment methods and limits derived from this study were applied as minimum requirements for professional flight crew, 35 per cent of colour deficient applicants would be eligible for medical certification as a professional pilot. The CAA intends to promote this research internationally with a view to gaining acceptance of the CAD test and its incorporation in world-wide medical standards for pilots."

The full research study can be found at www.caa.co.uk/caapaper200904

For media enquiries please contact Cheryl Walmsley at the CAA Press Office on 0207 453 6023.

Notes to editors

The research on, 'Minimum colour vision requirements for professional flight crew', was carried out by Professor John Barbur and Dr Marisa Rodriguez-Carmona of the Applied Vision Research Centre, The Henry Wellcome Laboratories for Vision Sciences, City University London, UK.

The CAA is the UK's specialist aviation regulator. Its activities include: making sure that the aviation industry meets the highest technical and operational safety standards; preventing holidaymakers from being stranded abroad or losing money because of tour operator insolvency; planning and regulating all UK airspace; and regulating airports, air traffic services and airlines and providing advice on aviation policy from an economic standpoint.

City University London is a principal provider of undergraduate, postgraduate, professional and vocational education in the United Kingdom. The University is committed to leading London in education, research and knowledge transfer for businesses and the professions and is renowned for its international focus and the employability of its graduates.

The FAA regulates civil aviation in the United States. It is part of the U.S. government's Department of Transportation, which also monitors the safe operation of automobiles, highways, railroads, maritime and other modes of transport.

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