

**TEXT FROM UK CAA AERONAUTICAL INFORMATION CIRCULAR
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FLIGHT OPERATIONS STANDARDS

FLIGHT CREW CRM TRAINING STANDARDS

1 Introduction

1.1 Crew Resource Management (CRM) has become an integral part of crew training in the United Kingdom. AIC 117/1998 (Pink 180) previously AIC 143/1993 (Pink 90) and AIC 37/1995 (Pink 110) set requirements for initial and recurrent training of flight crew employed by Air Operator Certificate holders and for all authorised examiners. JAR-OPS Subpart N and Temporary Guidance Leaflet (TGL) No. 5 (*note: since superseded by NPA-OPS 16 dated December 1999*) also detail CRM training and assessment and further TGLs expanding upon the JAR-OPS requirement may be published in due course.

1.2 However, Operators have requested further guidance on the management of CRM training and the industry has recognised the need to establish instructors' performance standards. On the other hand, pilots' unions, whilst whole-heartedly supporting the need for CRM training, have expressed concern over the possible misuse of assessment of flight crew in non-technical subjects.

1.3 The Authority is aware of the need to keep an adequate balance between technical and non-technical training for flight crew and seeks to ensure that the content and delivery of CRM training, both initial and recurrent, remains practical and aligned with anticipated European requirements whilst ensuring that minimum standards are met.

1.4 The purpose of this Circular is to provide advice to industry on how to ensure the quality of CRM training, by drawing attention to research sponsored by the Authority and the JAA into the use of performance indicators known as Behavioural Markers, in order to assess the progress and effectiveness of CRM initial and recurrent courses. Additionally, reference is made to the joint Aviation Training Association (ATA)/Royal Aeronautical Society (RAeS)/CAA study (funded in part by the Department for Education and Employment) which sets out performance standards for CRM tuition.

1.5 Finally, views are given on the assessment of crew member performance in CRM.

ATA, British Airlines Pilots' Association and through the Human Factors Group of the RAeS, a practical document entitled "Guide to Performance Standards for Instructors of CRM Training in Commercial Aviation" has been produced. This document is now available from "Riverprint", Unit 9, Riverside Park, Farnham, Surrey, GU9 7UG (tel 01252 722771, fax 01252 733633, e-mail sales@riverprint.co.uk).

2.1.2 This document clearly sets out the performance standards for those who teach CRM and Human Factors. However, operators and interested organisations are free to use any suitable means to achieve those standards. The guide will also greatly assist those who teach purely technical subjects.

2.1.3 Now that adequate material is available, the Authority expects that all who give instruction in CRM and associated subjects will meet the performance criteria indicated by the performance standard guide. In due course, the Authority will seek to establish a means of CRM instructional accreditation, after further consultation with industry and collaboration with the JAA.

2.1.4 The expectation is that eventually CRM instructional skills will be integrated into instructor ratings (e.g. TRI) and examiner authorisations (e.g. TRE).

2.2 Effectiveness of CRM Training

2.2.1 Traditionally, the effectiveness of technical training of flight crew, their instructors and examiners has been measured by written examination and by practical skill tests such as aircraft type-rating written examinations, flight tests and observation of instructor and examiner performance.

2.2.2 However, vaguely defined non-technical subjects such as 'Captaincy' and 'Airmanship', whilst being recognised as essential attributes in addition to technical skills, have lacked any formally recognised measurement criteria. As a result, the assessment of the effectiveness of non-technical training has been very subjective and extremely variable, even to the extent of flight crew being assessed in a very arbitrary manner possibly to the detriment of their careers.

2.2.3 The introduction of CRM into formal flight crew training has done much to correct the situation. However, even the delivery of CRM training is proving to be very variable in content and technique. Consequently, the standard and thereby the overall effectiveness are greatly diminished.

2.2.4 The variability of CRM standards and the lack of common practical reference

would also recommend that operators using, or considering the development of, CRM assessment systems, review CAA Paper 98005 (available from Westward Digital Ltd, 37 Windsor Street, Cheltenham, Glos GL52 2DG tel. 01242 235151 fax 01242 584139) which details current practice and the European position with respect to evaluation of the draft non-technical skills standard (behavioural marker system).

2.2.6 Because there is evidence of confusion, and in some cases biased assessment, the Authority expects UK operators and organisations to use the JAA's draft NOTECHS framework (non-technical skills standard) as described in CAA Paper 98005, as a basis for assessment of the effectiveness of all CRM initial and recurrent CRM training, unless it can be shown that their proposals are similar or have clearly defined advantages which can be used to amend the draft standard in due course.

2.2.7 The CAA SRG Human Factors [staff] invites operators to participate in the collection of data for evaluating the draft standard.

3 Individual Flight Crew Assessment

3.1 The Authority is concerned that the JAR-OPS requirement for the assessment of flight crew CRM could be conducted in a haphazard and unfair manner by those who are neither qualified nor using an established system for reference. The expectation is that all instructors who deliver CRM subjects or who make any form of assessment will meet the instructional performance standards as discussed in paragraph 2.1 and will use the criteria described in paragraph 2.2 of this Circular.

3.2 The Authority is not in favour of CRM assessment of crew being conducted as an activity survey of each phase of the flight or relevant activity in a simulator. Rather, CRM skills should be included in the **overall** assessment when a flight crew member undergoes a proficiency check, line check or when undergoing such checks following the completion of a command course, using the criteria described in NOTECHS.

This Circular is issued for information, guidance and necessary action.