

Safety Regulation Group
Flight Operations Inspectorate



Standards Document No. 29 Version 8

Guidance on the requirements for the training and testing of Human Factors for Flightcrew under EASA Part ORO and EASA Part FCL.

All amendments to this document will be completed electronically. The latest version of the document can be found on the CAA website: www.caa.co.uk/standardsdocuments

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AMENDMENT SUMMARY**Version 8****May 2019**

Extensive re-write of the document to incorporate the latest relevant information from EASA Part FCL and Part ORO as of May 2019. Updated terms of reference of the Flight Crew Human Factors Advisory Panel (Appendix 6).

Version 7**August 2016**

Standards Document 29 includes an updated terms of reference of the Flight Crew Factors Advisory Panel (Appendix 7).

Version 6**June 2015**

Standards Document 29 has been substantially re-written to provide guidance for individuals and Operators subject to the requirements of EASA Part FCL and Part ORO with regard to the training and testing of CRM, including recognisable human factors and behavioural markers.

GLOSSARY

AMC	Acceptable Means of Compliance
AAMC	Alternative Acceptable Means of Compliance
AoC	Assessment of Competence
ATPL	Airline Transport Pilot Licence
ATQP	Alternative Training Qualification Programme
CRE	Class Rating Examiner
CRI	Class Rating Instructor
CRM	Crew Resource Management
CRMT	Crew Resource Management Trainer
CRMT (E)	Crew Resource Management Trainer Examiner
EBT	Evidence Based Training
FSTD	Flight Synthetic Training Device
GM	Guidance Material
HF	Human Factors
HPL	Human Performance and Limitations
LPC	Licence Proficiency Check
LST	Licence Skill Test
LIFUS	Line Flying under supervision
MCC	Multi-Crew Co-operation
NOTECHS	Non-Technical Skills
NTS	Non-Technical Skills
OPC	Operator Proficiency Check
SAR	Search and Rescue
TOR	Terms of Reference
TRE	Type Rating Examiner
TRI	Type Rating Instructor

1 INTRODUCTION

1.1 Origin

This document has been developed in conjunction with the UK Flight Crew Human Factors Advisory Panel (FCHFAP). The requirements and qualifications described relate to the rules and regulations for commercial flight operations under EASA Part ORO and EASA Part FCL.

'Safety research continues to highlight the importance of people's actions in both contributing to and avoiding incidents and accidents'. Recognition of this fact prompted the introduction of mandatory Crew Resource Management (CRM)/Multi-crew Cooperation (MCC) training for Flight Crew more than 20 years ago. However, early CRM courses were often poorly implemented and drew heavily on existing management training theory. They were also aimed primarily towards driving out what was perceived to be the 'wrong stuff' from a behavioural perspective and they often met with little success, as a strong and relevant link between the content and actual flight operations was frequently lacking.

Human factors training for Flight Crew has, however, developed considerably since it's introduction and the requirements are now much more 'operationally' orientated. In addition, the principle that human error is ubiquitous and inevitable is widely accepted, as is the understanding that people help to create safety. The development and training of effective threat and error management strategies now forms the core of many Operators' CRM/MCC training programmes, and rightly so. Effective Threat and Error Management is the aim, and effective CRM/MCC training is the means by which this is achieved.

The regulatory requirements also continue to be refined in support of these developments. This process is expected to continue as, for example, more evidence based and data driven training/assessment methodologies such as ATQP (Alternative Training Qualification Programme) and EBT (Evidence Based Training) are introduced and adopted.

The intention is that this publication will always reflect current requirements; however, it can only ever reflect the legislation that existed at the time of writing so should a contradiction or omission occur, it should be assumed that EASA source material (AMC, GM etc.) has superseded the requirements described here. Guidance should always be sought from the UK CAA should there be any doubt.

2 THE REGULATORY FRAMEWORK

2.1 Introduction

The regulatory framework acknowledges that significant safety benefits accrue from an integrated approach to the training and testing of both technical and non-technical skills and an appreciation of the factors that affect human performance. The concepts and competencies that underpin the core elements of performance are defined in EASA Regulation. At first glance these appear to have been developed and labelled somewhat differently under Part FCL and Part ORO, however, as is shown below, Part FCL and Part ORO actually require exactly the same competencies (knowledge, skills and behaviours) to be trained, and then tested.

From Part FCL and Part ORO:

MCC Concept (Part FCL)	CRM Concept (Part ORO)
<p>Multi-crew cooperation" (MCC) means the functioning of the flight crew as a team of cooperating members led by the pilot-in-command.</p> <p>The objectives of MCC training are to develop the technical and non-technical components of the knowledge, skills and attitudes required to operate a multicrew aircraft.</p>	<p>CRM is the effective utilisation of all available resources (e.g. crew members, aircraft systems, supporting facilities and persons) to achieve safe and efficient operation.</p> <p>The objective of CRM is to enhance the communication and management skills of the flight crewmember concerned. Emphasis is placed on the non-technical knowledge, skills and attitudes of flight crew performance.</p>

MCC Knowledge Requirements	CRM Knowledge Requirements
<ul style="list-style-type: none"> • Human Factors in Aviation • Threat and Error management and CRM Concepts • Human Performance and Limitations 	<ul style="list-style-type: none"> • Human Factors in Aviation • Threat and Error management and CRM Concepts • Human Performance and Limitations

MCC Competencies and Objectives	CRM Competencies and Objectives
<ul style="list-style-type: none"> • Threat and error management • Communication • Leadership and Teamwork • Situation awareness • Workload and Task Management • Problem Solving and decision making • Monitoring and crosschecking 	<ul style="list-style-type: none"> • Threat and error management • Communication • Leadership and Teamwork • Situation awareness • Workload and Task Management • Problem Solving and decision making • Monitoring and crosschecking

<ul style="list-style-type: none"> • SOPs and Task Sharing • Briefing • Flight Management • Effective Monitoring • The management of Normal and Abnormal operations 	<ul style="list-style-type: none"> • SOPs and Task Sharing • Briefing • Automation Management • Effective Monitoring • The management of Normal and Abnormal operations
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2.2 The Training and Testing of Non-technical Skills/Human Factors under Part FCL and Part ORO

The training and testing of NTS/HF is required by Part FCL and Part ORO.

Part FCL:

Part FCL and the accompanying AMC/GM describe the requirements for the initial issue and maintenance of validity of a Flight Crew licence and any associated type/class ratings. Human Performance and Limitations is a core syllabus item. The principles of threat and error management and crew resource management must be integrated throughout a type/class rating course. An individual wishing to extend the privileges of their licence to include a type or class operated in a multi-crew environment must additionally complete a Multi-crew Co-operation Course.

The licence holder's non-technical skills are then tested during the Licence Skill Test (LST) for the initial issue of a rating and retested during the Licence Proficiency Check (LPC), in accordance with the requirements of Part FCL Appendix 9 and the detailed testing standards described in UK CAA Standards Document 24. These standards apply equally to both single pilot and multi-crew type/class ratings.

Part ORO:

Part ORO describe the requirements for the training and testing of non-technical skills (CRM, MCC) for Flightcrew who work for an Operator (see Part ORO.FC.115, 205, 215, 220, 230 and accompanying AMC/GM for further guidance.) They apply equally to both multi-crew and single-pilot Operators – see AMC2.ORO.FC.115: CRM training - Single Pilot operators.

In particular, Part ORO states that:

- CRM training shall be integrated into conversion course training and checking.
- A Flight Crew member shall not commence unsupervised Line Flying until they have completed the Initial Operator's CRM training course.
- Elements of CRM shall be integrated into all appropriate phases of recurrent training
- Flight Crew shall undergo specific modular CRM training in accordance with the requirements of ORO.FC.115.

- All major topics of CRM training shall be covered over each three-year period. Modular training sessions should be distributed as evenly as possible.
- The Command Course shall include specific CRM Training.

A licence holder's non-technical skills are then tested during the Line Check and Operator's Proficiency Check (OPC).

Competency-based CRM training:

Part ORO allows the compliance-based approach to CRM training to be substituted by a competency-based approach such as the Alternative Training and Qualification Program (ATQP) and Evidence Based Training program (EBT). Under these programs, CRM training is characterised by a performance-based orientation, with emphasis on standards of performance, their measurement, and the development of training to the specified performance standards. NTS Competency is assessed during the Line Orientated Evaluation (ATQP) or Evaluation Phase (EBT).

2.3 Instructor, Trainer, and Examiner Competence

Non-technical Skills / Human Factors training can be considered to take place in either a non-operational (classroom, ground school, computer-based) or an operational (Simulator, Aircraft) environment.

Simulator and Aircraft Operations:

Authorised Examiners and rated Instructors must comply with the requirements and competency standards described in Part FCL, Part ORO and UK CAA Standards Documents 24. They must demonstrate their ability to integrate, train, and if applicable, assess MCC/CRM.

Ground school/Classroom-based Training:

The UK CAA ceased to administer a formal scheme of accreditation for CRM Trainers following the adoption into UK regulation of EASA Part ORO in October 2014.

Part ORO requires an Operator to ensure that the CRM Trainers it employs (or contracts) are 'suitably qualified'. In addition, an Operator must be able to demonstrate to the Competent Authority (the UK CAA) how this requirement is achieved.

Competency standards for CRM Trainers have been developed and are described in Part ORO. AMC3 ORO.FC.115, GM7 ORO.FC.115, and Appendices 2 and 3 give further guidance.

3 CRM TRAINING - GENERAL

3.1 General Requirements

The UK CAA retains overall responsibility for the standard of HF training and testing in the UK. Operators can expect CAA Inspectors to observe ground school / classroom training, simulator training, and Line operations on an opportunity basis.

Operators are required to demonstrate how they comply with the Part ORO requirement to

ensure the personnel involved in the training and testing of Flightcrew Human Factors are “suitably qualified” in accordance with the regulations. Operators will therefore need to develop and publish procedures within Part D of their Operations Manual that describe the selection, training and assessment of all personnel involved in HF training and testing.

Operators should nominate a person to act as a single point of contact responsible for managing CRM training under the oversight of the UK CAA. This “HF Manager” should develop and maintain CRM training programs in accordance with the regulation.

Operators will also need to establish a process whereby all CRM Trainers (CRMTs) are assessed and standardised; this assessment may be conducted by an ‘Operator appointed’ CRMT Examiner (CRMTE). This assessment will be undertaken every three years and records maintained to confirm the activity. An Operator that does not have the resources may employ a suitably qualified third-party to conduct the assessment.

An Operator’s Part D must also include the processes by which a CRMTE is selected, trained and assessed in the role. A nominated person acceptable to the UK CAA should complete the assessment of a CRMTE.

3.2 Use of Third-party Training Providers

Operators who utilise the services of a third-party CRM Training provider remain responsible under Part ORO for ensuring that the CRMTs employed are suitably qualified, and must establish and publish a process which ensures this in their Part D. The operator should also ensure that the content of the course covers the specific culture, the type of operations and the associated procedures of the operator.

4 CRM TRAINERS (CRMTs)

4.1 Suitability – see AMC3 ORO.FC.115

The Flightcrew CRM trainers responsible for classroom CRM Training have a pivotal role to play within an Operator’s safety system and are an important means by which high CRM/MCC standards are developed and maintained. It is a specific requirement of Part ORO that all of the personnel who conduct CRM Training are ‘suitably qualified’.

Note: the requirements described below are not applicable to:

- (i) Instructors, holding a certificate in accordance with Commission Regulation (EU) No 1178/2011, who conduct CRM training in the operational environment; and
- (ii) Trainers or Instructors conducting training other than CRM training, but integrating CRM elements into this training.

A training and standardisation program for flight crew CRM trainers should be established. In order to be suitably qualified, a CRM Trainer must:

(1)

- (i) Have adequate knowledge of the relevant flight operations, preferable through experience as flight crewmember; current
- (ii) Have adequate knowledge of human performance and limitations (HPL), whilst

- (A) having obtained a commercial pilot licence in accordance with Commission Regulation (EU) No 1178/2011, or
 - (B) having followed a theoretical HPL course covering the whole syllabus of the HPL examination;
- (iii) Have completed initial flight crew CRM training;
 - (iv) Have received training in group facilitation skills;
 - (v) Have received additional training in the fields of group management, group dynamics and personal awareness; and
 - (vi) Have demonstrated the knowledge, skills and credibility required to train the elements specified in Table 1 AMC1 ORO.FC.115
- (2) The following qualifications and experience are also acceptable:
- (i) A Flightcrew member holding a recent qualification as a CRM Trainer may continue to be a CRM Trainer after the cessation of active flying duties if he/she maintains adequate knowledge of the relevant flight operations.
 - (ii) A former Flightcrew member having adequate knowledge of HPL may become a CRM Trainer if he/she maintains adequate knowledge of the relevant flight operations and meets the provisions of paragraph (1)(iii) to (1)(vi).
 - (iii) An experienced CRM Trainer may become a Flightcrew CRM Trainer if he/she demonstrates adequate knowledge of relevant flight operations and fulfils the requirements of paragraph (1)(i) and (1)(iii) to (1)(vi).

4.2 Training

A well-defined minimum standard of CRM Trainer competency is essential if high standards of CRM instruction, and the effective integration of CRM and Threat and Error Management strategies are to be achieved in accordance with the requirements of Part FCL and Part ORO.

ICAO PANS-TRG states that:

“In competency-based programs, Instructor competencies are made explicit, and instructors have to demonstrate their instructional skills and their knowledge of the subject matter and training course content.”

The training course for a CRM Trainer should be both theoretical and practical. Practical elements should include the development of specific trainer skills, and how to integrate CRM/MCC into line operations in particular.

CRM Trainer competency can be subdivided into ‘Units of Competence’, each containing a number of performance elements and background knowledge requirements, as detailed in Appendix A. CRMT training should be conducted by CRM Trainers with a minimum of three years’ experience. They may be assisted by experts in order to address specific areas.

4.3 CRM Trainer Standards and Assessment

CRM Trainer requirements are described in the AMC/GM to ORO.FC.115, 215 and expanded in Appendix 2 of this document. They mirror the competence standards for an

Instructor described in Part-FCL Subpart J and associated AMC/GM. Guidance on how to conduct the assessment of a CRM Trainer against these standards is given in appendix 2.

All personnel involved in the assessment must be credible and competent in their role. The operator should ensure that the process of assessment is included in the Operations

Manual and describes the methods used for observing, recording, interpreting and debriefing the Flightcrew CRM Trainer.

The initial assessment is valid for a period of three years and subject to the following provisions:

- (1) A CRM Trainer should have conducted at least two CRM training courses in any rolling 12-month period.
- (2) Complete CRM trainer refresher training within the 3-year period of validity
- (3) For continued validity, the CRM Trainer should be re-assessed within the last 12 months of the three-year period of validity.
- (4) The next three-year validity starts at the end of the previous three-year period.
- (5) Renewal: If no assessment or training was conducted over the 3-year period, a CRM Trainer should comply with the qualification provisions of paragraph 4.3 (2) and (3) before resuming CRM instruction.

5 CRM TRAINER EXAMINERS (CRMTEs)

5.1 Suitability

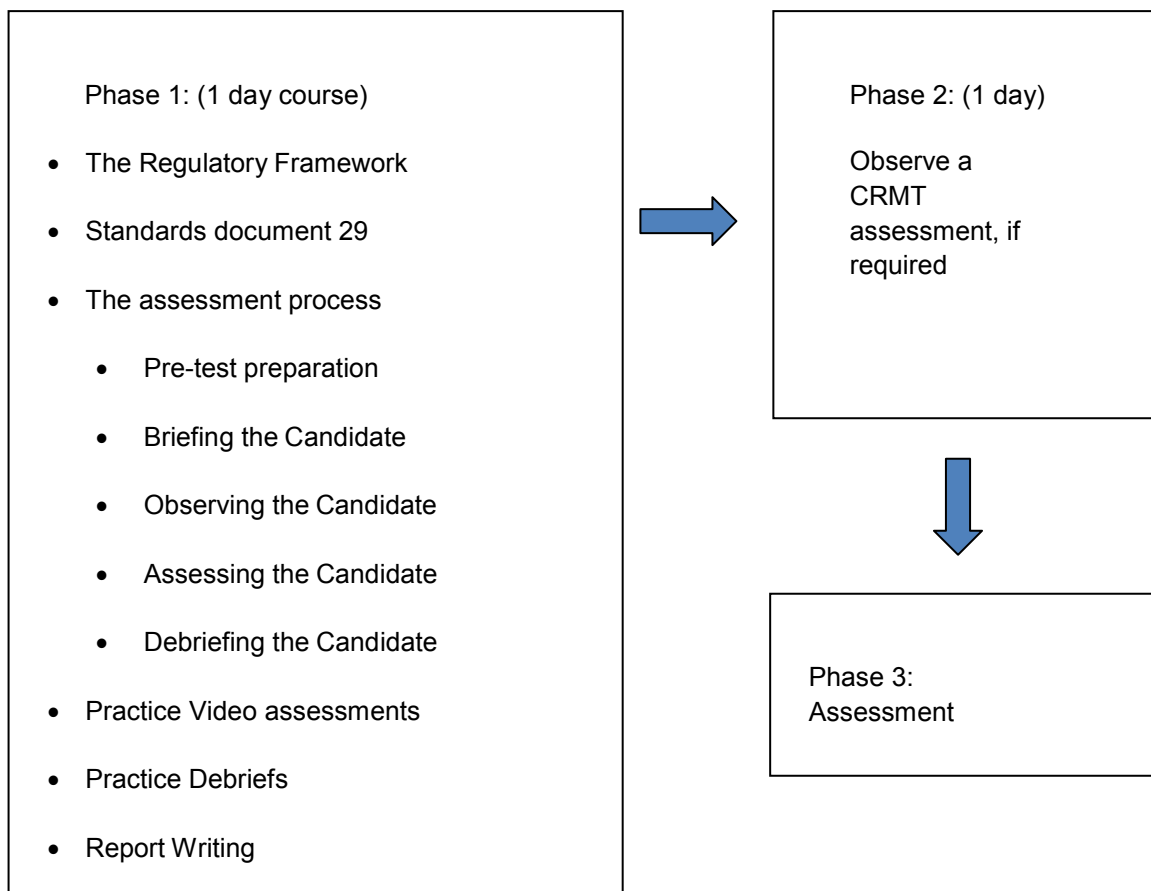
An Operator should nominate suitably experienced CRM Trainers to act as Examiners. Operators who do not have sufficient in-house resources may utilise a third-party, however, the Operator should confirm the standard and competence of the third-party.

Continued suitability in the role of a CRM Trainer Examiner should be subject to the following provisions:

- (i) The Examiner should demonstrate continued compliance with the requirements for a CRM trainer and should demonstrate capability in that role.
 - (ii) The Examiner should have conducted at least two CRM Trainer assessments in the previous 12 months.
 - (iii) Within the last 12 months of the three-year validity period the examiner should be observed conducting an assessment of a CRM Trainer by a nominated person acceptable to the Authority.
 - (iv) The next three-year validity starts at the end of the previous three-year period.
 - (v) Renewal: If the examiner has not maintained activity in the role, he/she may be supervised by a valid CRMTE until recency is achieved or the provisions of
- (iii) are complied with.

5.2 Training

A prospective CRMTE should undergo training designed to equip them with the relevant Examiner competencies prior to being assessed as a CRMTE. A suggested methodology is as follows:



6 PART FCL INSTRUCTORS and EXAMINERS

6.1 Requirements

Part FCL.920 – Instructor Competencies and Assessment – requires all Instructors to be able to demonstrate that they have the knowledge and skills to be able to teach and assess Threat and Error Management and CRM. Part ORO requires elements of CRM be integrated into all appropriate phases of type, recurrent, and command training. Whenever practicable, relevant parts of the CRM training described in AMC1 ORO.FC.115 should be conducted in FSTDs that reproduce a realistic operational environment and permit interaction, including LOFT type training scenarios where appropriate. CRM is also an essential element of the ATQP and EBT programs (see AMC1 ORO.FC.A.245).

Instructors and examiners should refer to Part FCL, Part ORO and UK CAA Standards Document 24(A) or 24(H) as appropriate, for further guidance.

7 LINE FLYING UNDER SUPERVISION and LINE CHECKS

7.1 Line Flying Under Supervision

Line flying under supervision (LIFUS) takes place after completion of the flight/simulator training required for the issue of a type rating following an Operator's conversion course and provides the opportunity for a flightcrew member to practice and consolidate the procedures and techniques he/she has been made familiar with during the conversion course. It may be conducted by a TRI or a flightcrew member specifically nominated for the task by the Operator who does not hold Instructor Certificate issued in accordance with the requirements of Part FCL.

Part ORO.FC.115 and 220 require the relevant elements of the CRM/TEM training syllabus in Table 1 AMC1 ORO.FC.115 to be integrated into this phase of training. All personnel involved in LIFUS training must be competent and able to deliver these elements to the required depth. An Operator should be able to show how this is achieved and how standards are maintained in Part D of their operations manual. Appendix 5 of this document includes a specimen Assessment Form. This may be used by an Operator to help assess the competence of personnel involved in LIFUS training.

7.2 Line Checks

Line checks, are intended to ensure the crewmember's ability to operate efficiently under normal conditions and are conducted by a suitably qualified Commander nominated by the Operator. The flight crew should be assessed on their CRM skills in accordance with the methodology described in AMC1 ORO.FC.115 and as specified in the operations manual. The nominated Commander should be trained in CRM concepts and the assessment of CRM skills.

8 ASSESSING COMPETENCY BASED and NON-TECHNICAL PERFORMANCE

8.1 The NOTECHS behavioural marker system

The training and testing of CRM/MCC is an integral requirement under Part FCL and Part ORO regulation. There are five occasions during which CRM/MCC competence is specifically assessed: the Licence Skill Test (LST); the Licence Proficiency Check (LPC); the Operator's Proficiency Check (OPC) and the Line Check. Under ATQP and EBT Non-technical competency is assessed during the Line Orientated Evaluation (ATQP) or Evaluation Phase (EBT).

The same pass/fail assessment criteria should be applied to all of these events, however, when the requirement to assess CRM/MCC was first introduced there were no formal measurements of competence, potentially leading to a subjective and extremely variable application of assessment standards. Research into a means of assessment showed that non-technical skills are reflected in recognisable behaviours, whose characteristics are identifiable using behavioural marker systems. The NOTECHS behavioural marker system described in GM6 ORO.FC.115 is one such system. It was developed and validated specifically for the purpose of assessing flightcrew CRM/MCC skills and it used by many Operators today.

8.2 Competency Based Training Programs

The following has been taken from the ICAO EBT Implementation Guide:

The aim of an EBT program is to identify, develop and evaluate the key competencies required by pilots to operate safely, effectively and efficiently in a commercial air transport environment, by managing the most relevant threats and errors, based on evidence collected in operations and training. It is impossible to foresee all plausible accident scenarios, especially in today's aviation system where the system's complexity and high reliability mean that the next accident may be something completely unexpected. EBT addresses this by moving from pure scenario-based training, to prioritizing the development and assessment of defined competencies, leading to better training outcomes. Mastering a finite number of defined competencies will allow a pilot to manage previously unseen potentially dangerous situations in flight.

EBT recognizes the need to develop and assess crew performance according to a set of competencies without necessarily distinguishing between those that are "technical" and "non-technical", in order to operate safely.

In an EBT competency framework the core competencies are listed along with key behavioural performance indicators to aid assessment and the evaluation of competence. There is no overt distinction between technical and non-technical indicators.

8.3 Assessment

Regardless of the methodology or competency framework used, robust Instructor training is essential to ensure inter-rater reliability, consistency and a standardised assessment process. Operators must include the process by which their Instructors, Examiners and Assessors are trained, validated and then standardised on an on-going basis in Part D of their operations manual.

APPENDIX 1

THE SHORT GUIDE TO PERFORMANCE STANDARDS FOR CRM INSTRUCTORS

- 1 The purpose of this short guide is to establish industry standards for CRMTs. This guide is designed to give guidance and information to operators, providers of CRM training and CRMTs on the necessary standards of competence. These were originally formalised in the 'Guide to Performance Standards for Instructors of Crew Resource Management Training in Commercial Aviation' (September 1998). Due to the changing nature of the CRM discipline, information in this new guide may be considered to overrule that of the original, which will be updated in due course.
- 2 This Short Guide details the requirements that candidates must meet to be considered a competent CRMT in each of the following contexts:
 - Simulator/FSTD
 - Line Flying
 - Ground School .
- 3 Some material may appear to be repeated in several contexts where the requirements are similar; this is done for ease of use.
- 4 In each context there are four main areas of competence:
 - i) training design;
 - ii) training delivery;
 - iii) trainee progress assessment; and
 - iv) continuous improvement of training efficacy.
- 5 These areas are subdivided into ten 'Units of Competence ', each of which contains a number of performance elements and background knowledge requirements (detailed in the table below). Those elements marked in bold are mandatory, the rest being optional but desirable. To demonstrate the competence required of a CRMT, candidates must be able show that they fulfil all the mandatory elements plus five optional elements.

SIMULATOR/FSTD

UNIT	PERFORMANCE ELEMENT	KNOWLEDGE
A1 Designs CRM training sessions	<ol style="list-style-type: none"> 1) Identifies training requirements. 2) Selects CRM standards. 3) Builds in methods of evaluating training effectiveness. 	<ul style="list-style-type: none"> • Understanding objectives. • Company and industry requirements. • Training techniques.
A2 Prepares resources	<ol style="list-style-type: none"> 1) Ensures activities are practical and realistic. 2) Ensures facilities meet requirements. 3) Assists in the preparation of briefing materials. 	<ul style="list-style-type: none"> • Simulator procedures and resources. • Available equipment.
B1 Integrates CRM training	<ol style="list-style-type: none"> 1) Makes CRM links with technical training and SOPs where appropriate. 2) Makes links with flight safety, customer service, company policy. 	<ul style="list-style-type: none"> • Company technical and operational training procedures and requirements. • Human Factors.
B2 Creates a climate conducive to learning	<ol style="list-style-type: none"> 1) Establishes CRM credentials and rapport with trainees, and clarifies roles. 2) Clarifies training objectives and methods. 3) Ascertains and supports trainees' needs. 	<ul style="list-style-type: none"> • Potential barriers to learning, including awareness of cross-cultural issues. • How to put trainees at ease.
B3 Presents knowledge	<ol style="list-style-type: none"> 1) Communicates clearly, accurately and adequately. 2) Creates and sustains realism in the detail. 	<ul style="list-style-type: none"> • Distinguish between process and content outcomes. • Ways to elicit participation. • Methods of giving information/adult learning styles.
B4 Facilitates learning and coaches individuals	<ol style="list-style-type: none"> 1) Encourages trainees to get involved. 2) Focus is on trainees, not themselves. 3) Overtly supportive of CRM principles in word and deed (i.e. role models good CRM). 4) Motivating, patient, confident and assertive manner. 5) Conducts one-to-one coaching/debrief of crew members as appropriate. 6) Encourages mutual support, teamwork and sharing of individual learning experiences. 	<ul style="list-style-type: none"> • Facilitation. • How to give constructive debriefing and feedback. • The difference between coaching and demonstration/instruction. • Group dynamics.

UNIT	PERFORMANCE ELEMENT	KNOWLEDGE
C1 Monitors and reviews progress	<ol style="list-style-type: none"> 1) Continuously monitors and responds flexibly to the training session. 2) Ensures objectives are achieved. 3) Reviews progress with trainees. 	<ul style="list-style-type: none"> • Methods of tracking performance in the simulator. • Methods of tracking performance. • Principles and purpose of reviews. • What constitutes valid and reliable information.
C2 Assesses trainees' performance	<ol style="list-style-type: none"> 1) Assists trainees to assess own individual and team performance against CRM standards. 2) Sets new/additional learning objectives. 	<ul style="list-style-type: none"> • Uses of video playback and debriefing to facilitate learning.
D1 Evaluates CRM training sessions	<ol style="list-style-type: none"> 1) Elicits feedback from trainees. 2) Tracks training session processes against agreed criteria. 3) Keeps appropriate records. 	<ul style="list-style-type: none"> • Methods of assessing and improving session effectiveness.
D2 Evaluates and develops own practice	<ol style="list-style-type: none"> 1) Regularly reviews own performance, strengths and development needs. 2) Collects feedback about performance from others. 3) Keeps abreast of developments from Regulator, trade press, etc. 4) Maintains a written development record against a development plan. 	<ul style="list-style-type: none"> • Methods of assessing own performance. • Methods of improving own performance.

LINE FLYING

UNIT	PERFORMANCE ELEMENT	KNOWLEDGE
A1 Designs CRM training sessions	<ol style="list-style-type: none"> 1) Identifies training requirements. 2) Selects CRM components of line check. 3) Provides opportunities for demonstrating CRM competency. 	<ul style="list-style-type: none"> • Company and industry requirements. • Training techniques. • Relevant regulatory requirements. • CRM standards.
A2 Prepares resources	Not applicable.	Not applicable.
B1 Integrates CRM training	<ol style="list-style-type: none"> 1) Makes CRM links with technical training and SOPs where appropriate. 2) Makes links with flight safety, customer service, company policy. 	<ul style="list-style-type: none"> • Company technical and operational training procedures and requirements. • Human Factors.
B2 Creates a climate conducive to learning	<ol style="list-style-type: none"> 1) Establishes CRM credentials and rapport with trainees, and clarifies roles. 2) Clarifies training objectives and consequences. 3) Ascertain and supports trainees' needs. 	<ul style="list-style-type: none"> • Potential barriers to learning, including awareness of cross-cultural issues. • How to put trainees at ease. • Trainees' experience level and expectations. • Adult learning Preferences.
B3 Presents knowledge	<ol style="list-style-type: none"> 1) Communicates clearly, accurately and adequately. 2) Looks for training opportunities. 	<ul style="list-style-type: none"> • Ways to elicit participation. • Methods of giving information.
B4 Facilitates learning and coaches individuals	<ol style="list-style-type: none"> 1) Encourages trainees to get involved. 2) Focus is on trainees, not themselves. 3) Overtly supportive of CRM principles in word and deed (i.e. role models good CRM). 4) Motivating, patient, confident and assertive manner. 5) Conducts one-to-one coaching/debrief of crew members as appropriate. 6) Encourages mutual support, teamwork and sharing of individual learning experiences. 7) Debriefs on practical application of CRM skills. 	<ul style="list-style-type: none"> • Facilitation. • How to give constructive debriefing and feedback. • The difference between coaching and demonstration/instruction. • How to encourage trainees to ask questions and seek advice.
C1 Monitors and reviews progress	<ol style="list-style-type: none"> 1) Continuously monitors and responds flexibly to the training session. 2) Ensures objectives are achieved. 3) Reviews progress with trainees. 	<ul style="list-style-type: none"> • Methods of tracking performance. • Principles and purpose of reviews. • What constitutes valid and reliable information.

UNIT	PERFORMANCE ELEMENT	KNOWLEDGE
<p>C2 Assesses trainees' performance</p>	<ol style="list-style-type: none"> 1) Assists trainees to assess own individual and team performance against CRM standards. 2) Conducts formative assessments. 3) Makes assessment decision and provides clear feedback. 4) Sets new/additional learning objectives. 5) Keeps appropriate records. 	<ul style="list-style-type: none"> • Observation techniques. • Methods of collecting evidence.
<p>D1 Evaluates CRM training sessions</p>	<ol style="list-style-type: none"> 1) Elicits feedback from trainees. 2) Tracks training session processes against agreed criteria. 3) Keeps appropriate records. 	<ul style="list-style-type: none"> • Methods of assessing and improving session effectiveness.
<p>D2 Evaluates and develops own practice</p>	<ol style="list-style-type: none"> 1) Regularly reviews own performance, strengths and development needs. 2) Collects feedback about performance from others. 3) Keeps abreast of developments from Regulator, trade press, etc. 4) Maintains a written development record against a development plan. 	<ul style="list-style-type: none"> • Methods of assessing own performance. • Methods of improving own performance.

GROUND SCHOOL TRAINING

UNIT	PERFORMANCE ELEMENT	KNOWLEDGE
A1 Designs CRM training sessions	<ol style="list-style-type: none"> 1) Identifies training requirements and delivery resources. 2) Sets objectives. 3) Builds in methods of evaluating training effectiveness. 4) Incorporates a variety of activities in design. 	<ul style="list-style-type: none"> • Understanding objectives. • Company and industry requirements. • Training techniques. • Relevant regulatory requirements. • CRM standards.
A2 Prepares resources	<ol style="list-style-type: none"> 1) Ensures activities are practical and realistic. 2) Ensures facilities meet requirements. 3) Assists in the preparation of briefing materials. 4) Ensures materials are adequate and clear. 	<ul style="list-style-type: none"> • Existing materials. • Copyright and intellectual property. • Company training standards.
B1 Integrates CRM training	<ol style="list-style-type: none"> 1) Makes CRM links with technical training and SOPs where appropriate. 2) Makes links with flight safety, customer service, company policy. 	<ul style="list-style-type: none"> • Company technical and operational training procedures and requirements. • Human Factors.
B2 Creates a climate conducive to learning	<ol style="list-style-type: none"> 1) Establishes CRM credentials and rapport with trainees, and clarifies roles and confidentiality. 2) Clarifies training objectives and methods. 3) Ascertains and supports trainees' needs. 	<ul style="list-style-type: none"> • Potential barriers to learning, including awareness of cross-cultural issues. • How to put trainees at ease.
B3 Presents knowledge	<ol style="list-style-type: none"> 1) Communicates clearly, accurately and adequately. 2) Creates and sustains realism in the detail. 3) Maintains interest. 	<ul style="list-style-type: none"> • Distinguish between process and content outcomes. • Ways to elicit participation. • Methods of giving information/adult learning preferences.
B4 Facilitates learning and coaches individuals	<ol style="list-style-type: none"> 1) Encourages trainees to get involved. 2) Focus is on trainees, not themselves. 3) Overtly supportive of CRM principles in word and deed (i.e. role models good CRM). 4) Motivating, patient, confident and assertive manner. 5) Uses exercises and activities to maximise learning. 6) Recognises and responds to individual needs. 7) Encourages mutual support, teamwork and sharing of individual learning experiences. 	<ul style="list-style-type: none"> • Facilitation. • How to give constructive debriefing and feedback. • The difference between coaching and demonstration/instruction. • Group dynamics. • Group facilitation techniques.

UNIT	PERFORMANCE ELEMENT	KNOWLEDGE
C1 Monitors and reviews progress	<ol style="list-style-type: none"> 1) Continuously monitors and responds flexibly to the training session. 2) Ensures objectives are achieved. 3) Reviews progress with trainees against formal benchmarks. 	<ul style="list-style-type: none"> • Methods of tracking performance.
C2 Assesses trainees' performance	<ol style="list-style-type: none"> 1) Assists trainees to assess own individual and team performance against CRM standards. 2) Sets new/additional learning objectives. 	<ul style="list-style-type: none"> • Uses of video playback and debriefing to facilitate learning. • Methods of assessing knowledge and skills.
D1 Evaluates CRM training sessions	<ol style="list-style-type: none"> 1) Elicits feedback from trainees. 2) Tracks training session processes against agreed criteria. 3) Elicits formal course evaluation from trainees. 4) Keeps appropriate records. 	<ul style="list-style-type: none"> • Methods of assessing and improving session effectiveness. • Evaluation techniques.
D2 Evaluates and develops own practice	<ol style="list-style-type: none"> 1) Regularly reviews own performance, strengths and development needs. 2) Collects feedback about performance from others. 3) Keeps abreast of developments from Regulator, trade press, etc. 4) Maintains a written development record against a development plan. 	<ul style="list-style-type: none"> • Methods of assessing own performance. • Methods of improving own performance.

APPENDIX 2

GUIDANCE FOR A CRMT EXAMINER CONDUCTING AN ASSESSMENT

1 Introduction

- 1.1 This brief has been written to assist a CRMTE undertaking a CRMT assessment in the classroom environment. It includes an easy to use checklist in the form of effective CRMT knowledge, skills and attitudes to help the Examiner decide if the candidate has demonstrated the required standard. It also includes a sample Examiner's assessment form.
- 1.2 The checklist and assessment form are designed to be practical tools that capture the key performance indicators in the Short Guide, Part ORO and CAP 737. They are designed to help the CRMTE make and record an assessment of the CRMT's suitability. The form is also a useful reference for the Trainer, as it helps him/her to understand the standards against which he/she is being assessed. Its use, however, is not mandatory and the Examiner may use his or her own company paperwork provided it accurately reflects the required
- 1.3 Examiners should remember that the assessment is not just an opportunity for the Instructor to demonstrate proficiency. As the majority of assessments will be deemed successful, best practice demands that all CRMTEs use this as an opportunity to give supportive feedback that helps develop and enhance the candidate's knowledge and skills.

2 Documents

- 2.1 In addition to any course material, Examiners may also be familiar with the general content of the following documents:
 - Standards Document 29
 - The relevant sections of EASA Part ORO
 - CAP 737 (available at www.caa.co.uk/cap737)
 - Company behavioural marker system / pilot competencies

3 The Test

- 3.1 Pre-Test Preparation:
 - ensure the candidate has completed any relevant company paperwork
 - agree a date/time, allowing for extra opportunity for briefing/debriefing of the candidate.
- 3.2 It is vital that the candidate is aware of the standards against which they are being assessed.

They should be provided with a copy of the Company Examiner Checklist prior to undertaking an assessment. The CRMTE will need to establish the type of course, review the syllabus/course material and establish the experience level and recency of the candidate and course trainees.
- 3.3 The CRMTE must confirm that the observation is to be carried out while the candidate conducts

training with a class of “live” trainees and the training footprint will be of sufficient length to allow them sufficient opportunity to confirm the candidate’s depth of knowledge and

their ability to facilitate learning. The Examiner should also ensure that the candidate knows that they can expect to be questioned on material not planned to be covered during the observation in order to assess their knowledge of other areas of the EASA flight crew CRM syllabus and confirm their ability to translate that knowledge into a facilitated discussion covering related operational issues.

4 Briefing/Conducting the Test

4.1 The CRMTE needs to brief the candidate in plenty of time before the course starts – this ensures there is time to:

- set an open and professional tone;
- establish that the purpose of the test is for the candidate to demonstrate his/her competence;
- discuss the examiner’s role (including seating position and involvement with the class);
- discuss briefing the class about the examiner;
- establish what the training objectives are for the session;
- allow an opportunity for the candidate to ask questions;
- establish how many courses the candidate has run in the validity period;
- explain that the examiner will maintain an unobtrusive role during the training, leaving the candidate responsible for course conduct and timing;
- explain and emphasise that the needs of the trainees will take precedence over any other requirements; and
- explain that the CRMTE will also ask questions to ascertain the candidate’s depth of knowledge and understanding of topics not discussed as part of the course being observed prior to delivering the result.

4.2 The CRMT check is primarily based on observation, and it cannot be over-emphasised that the CRMTE **must have evidence** that supports their final assessment of the candidate’s competence.

5 Assessment Criteria

5.1 The required CRM Trainer competence standards are described in “The Short Guide to Instructor Standards”. The aim of that checklist is to provide a summary of the key knowledge, skills and attitudes required to aid making an assessment of the candidate’s competence. Defining the behaviours that constitute a “good role model” is open to some degree of subjectivity; however, the term encapsulates one of the most important aspects of instructor competence and credibility, irrespective of the other skills required. The following list of behaviours is not exhaustive but is considered sufficient to convey an understanding of the concept and allow an informed assessment to be made.

5.2 A competent CRM Trainer:

- is overtly supportive of CRM principles in word and deed (actively role models good CRM);

- seeks feedback and responds appropriately;
- works hard to establish a rapport with trainees; is open and honest;
- creates an atmosphere of trust and respect;
- preserves confidentiality;
- is a good listener;
- openly strives to improve own performance;
- is supportive of fellow trainers; and
- is always patient, sensitive and respectful of others.

6 Examiner's Checklist for CRM Trainer Observations

6.1 There is space on the assessment form for the candidate to describe the key training objectives for each module and the training session overall. This gives the Examiner a clear insight into what the instructor is trying to achieve from the outset, and the Examiner may try to ensure that this is captured in as much detail as possible, as success or otherwise in achieving them forms one of the cornerstones of the assessment process.

6.2 The CRMTE may find using the simple nine-point checklist on the assessment form describing the key knowledge, skills and attitudes required to be an easy way to analyse and assess each performance element. An example is shown below.

Did the candidate support the achievement of the objectives, YES or NO? In deciding, consider the following:

- Did the candidate demonstrate the **knowledge** required for the role?
- Was the candidate **supportive of CRM concepts** and did the candidate **role model** best CRM practice?
- Did the candidate encourage trainees to participate, share their experiences and self-analyse?
- Did the candidate **identify and respond to the trainees' needs** relative to their expertise/experience?
- Did the candidate **integrate** practical CRM within technical training and line operations?
- Did the candidate incorporate **NOTECHS or Company CRM Standards** when appropriate?
- Did the candidate identify and discuss the **CRM reasons** for accidents/incidents/events?
- Did the candidate regularly check for understanding and resolve ambiguity?
- Did the candidate demonstrate effective **instruction and facilitation skills**?

6.3 The Examiner may find that casually checking the trainees' understanding of the material presented throughout the day can provide useful evidence to confirm their final assessment and improve the

quality of feedback to the candidate. The Examiner may take care not to re-open CRM training topics, but just seek to gather evidence that confirms and supports their final assessment of the candidate's performance.

7 Unacceptable Performance Indicators

7.1 What constitutes a failure of the candidate to reach the required standard? In reaching a conclusion it is useful to first consider whether or not the desired training objectives described by the candidate at the outset have been met. If not, was it for reasons outside of the control of the candidate? Were the training objectives met in spite of the candidate, rather than because of him? In all cases the Examiners must use their judgement and take into consideration any exceptional circumstances. However, if the CRMTE has evidence that confirms **repetition** of any of the following (paragraphs 7.4 to 7.14) this may normally result in the award of a failed assessment in that skill or knowledge area. A failure to reach the required standard in one or more areas will result in the candidate being assessed as unsatisfactory overall.

7.2 The following poor performance indicators may be used by the CRMTE when determining whether or not the candidate has displayed an acceptable level of proficiency. It must be emphasised that this list is not exhaustive and only includes the more common causes of failure. The CRMTE must still exercise his/her own judgement when assessing the candidate.

7.3 The use of the word "limited" in the following examples refers to a level of performance that the Examiner believes is unacceptable. The Examiner must provide evidence why it was unacceptable and what the candidate could do to rectify the issue.

7.4 Did the candidate support the achievement of the objectives, YES or NO?

The candidate:

- required multiple interventions and frequent assistance from the other facilitator(s) was required to support the achievement of the training objectives; or
- clearly showed that their own poor knowledge, skills or attitude failed to support the achievement of the training objectives.

7.5 Did the candidate support CRM concepts and did they role model best CRM practice?

The candidate:

- expressed the opinion that CRM training is of little value;
- was unfriendly, unwelcoming, impatient, insensitive, disrespectful or judgemental;
- demeaned the trainees;
- used humour inappropriately;
- let personal opinion deflect from the training objectives;
- rarely demonstrated empathy for the trainee's position; or
- did not remain calm under stress or became overly emotional.

7.6 Did the candidate demonstrate the knowledge required for the role?

The candidate:

- was unable to describe the key training objectives for each subject, or could only describe them with difficulty;
- displayed limited knowledge of the material presented;
- either was unable to provide or could only provide limited elaboration or explanation of the material when asked to do so by the trainees;
- displayed limited knowledge of the company behavioural/non-technical standards;
- either was unable to explain or had great difficulty explaining the relationship between the company behavioural/non-technical standards and optimum performance in line operations;
- displayed limited knowledge of the core EASA CRM subjects, e.g. communications, leadership, workload/task management, teamwork, situation awareness, problem-solving and decision-making; or
- displayed limited knowledge of the legislative requirements or publications pertaining to Human Factors training for flight crew, e.g. EASA Part ORO, CAP 737 and this document.

7.7 Did the candidate encourage trainees to participate, share their experiences and self-analyse?

The candidate:

- made limited attempts to encourage trainees to participate, or share their experiences; or
- frequently either ignored or stifled trainee input.

7.8 Did the candidate identify and respond to the trainees' needs relative to their expertise/experience?

The candidate:

- did not attempt to establish the trainees' starting point, background or level of any relevant experience;
- either failed to respond, made limited attempts or made inappropriate responses to trainees' requests for further explanation or elaboration of training material; or
- made limited or no attempts to alter or adapt the training material or content when this was clearly required in order to meet the trainees' needs.

7.9 Did the candidate integrate practical CRM within technical training and line operations?

The candidate:

- failed to integrate practical CRM measures within technical training; or
- was unable to relate CRM measures to line operations.

7.10 Did the candidate incorporate NOTECHS or Company CRM Standards when appropriate?

The candidate:

- made no, or limited, attempts to link the applicable non-technical marker system or CRM standards to effective crew behaviours during line operations; or
- made no, or limited, attempts to apply the applicable non-technical marker system or CRM standards when either describing or reinforcing effective behaviour.

7.11 Did the candidate identify and discuss the non-technical reasons for accidents/incidents/events?

The candidate:

- focused on the technical causes and made few, if any, attempts to identify any ineffective non-technical skills; or
- made limited or inappropriate attempts to facilitate what may have been more effective behaviours when discussing incidents/accidents.

7.12 Did the candidate regularly check for understanding and resolve ambiguity?

The candidate:

- rarely attempted to ensure trainees' questions were adequately answered; or
- rarely attempted to resolve any ambiguities or misunderstandings.

7.13 Did the candidate demonstrate effective instructional skills?

The candidate:

- was clearly unprepared and demonstrated a clear lack of familiarity with the training materials;
- was often unclear, hesitant, confused, confusing or unstructured;
- presented too much information using jargon, terminology and language that was inappropriate for trainees;
- made few, if any, attempts to present the session in a relevant and motivating manner;
- consistently failed to deal with inappropriate trainee behaviour that detracted from the training objectives or stifled trainee participation;
- frequently glossed over key concepts or spent excessive time discussing irrelevant points;
- consistently delivered material in a monotone fashion;
- consistently delivered material with little or no eye contact; or
- lacked energy and appropriate enthusiasm. The trainees were bored and disengaged.

7.14 Did the candidate demonstrate effective facilitation skills?

The candidate:

- rarely asked open questions that probed or deepened the discussion;

- rarely reflected or deflected questions back to the trainees and consistently answered the trainees' questions directly without giving the rest of the group an opportunity to contribute;
- consistently presented personal views and opinions and little attempt was made to either summarise or synthesise the participants' own views;
- consistently interrupted the trainees or rarely gave them sufficient time to formulate a response;
or
- either consistently ignored trainees' responses or rarely displayed effective listening skills such as paraphrasing.

8 Conducting the Debrief

8.1 The debrief may be conducted as follows:

- The CRMTE may adopt an appropriately relaxed but professional tone for the debrief and deliver the test result at the outset.
- The overall aim is to facilitate learning and for the CRMTE to role model an effective debriefing that ensures that the candidate makes the analysis of their own performance.
- The debriefing may focus on the candidate's development and include an appropriate balance of positive and negative feedback.
- In the event of a failure the examiner must indicate what re-training the candidate will need to undertake prior to a further assessment.
- The written report may reflect the content and key areas of performance debriefed.

8.2 Pass:

- State the result of the test and congratulate the candidate CRMT.

8.3 Fail:

- State the result, with the reasons and evidence in descending order of priority;
- state the effect on the CRMT's training position - "I have to advise you that you will be unable to continue training as a CRMT until your re-assessment is successful"; and
- state the areas where re-training is required.

8.4 Pass or Fail:

- Facilitate the main debrief points and agree any retraining requirements;
- the candidate CRMT must leave the debrief knowing what their strengths are; and
- the candidate CRMT must leave the debrief knowing what, if anything, needs to change and how to change it.

<p style="text-align: center;">Did the candidate support the achievement of the objectives? YES/NO (Provide reasons / give examples below)</p>	
Did the Candidate demonstrate the knowledge required for the role?	
Did the Candidate support CRM concepts and did they role model best CRM practice?	
Did the Candidate encourage trainees to participate, share their experiences and self-analyse ?	
Did the Candidate identify and respond to the trainees' needs relative to expertise/experience?	
Did the Candidate integrate practical CRM within technical training and line operations?	
Did the Candidate incorporate NOTECHS or Company CRM Standards when appropriate?	
Did the Candidate identify and discuss the non-technical reasons involved in accidents, incidents and events included in case studies?	
Did the Candidate regularly check for understanding and resolve ambiguity ?	
Did the Candidate demonstrate effective instruction and facilitation skills ?	

Nine-Point Checklist for CRMT Performance	
Written Observations	Assessment
Was the achievement of stated objectives/desired outcomes supported?	
Did the candidate support CRM concepts and did they role model best CRM practice?	
Did the candidate integrate practical CRM within the technical training?	
Did the CRMT identify the CRM reasons for errors/good results?	
Did the candidate integrate the Company CRM Standards (e.g. NOTECHS)?	
Did the candidate use facilitation skills effectively to encourage flight crew to self-analyse?	
Did the candidate assess flight crew non-technical performance accurately ?	
Did the CRMT demonstrate the CRM knowledge required for the role?	
Did the CRMT demonstrate the instructional skills required for the role?	

APPENDIX 5**EASA PART ORO CRM TRAINING SYLLABUS**

Taken from: Table 1: Flight crew CRM training (AMC/GM to Annex III (PART-ORO) subpart FC – Flight Crew AMC1 ORO.FC.115

CRM training elements	Initial operators CRM training	Operator conversion course when changing aircraft type	Operator conversion course when changing operator	Annual recurrent training	Command course
General principles					
Human factors in Aviation; General instructions on CRM principles and objectives; Human performance and limitations; Threat and error management.	In-depth	Required	Required	Required	Required
Relevant to the individual flight crew member					
Personality awareness, human error and reliability, attitudes and behaviours, self-assessment and self-critique; Stress and stress management; Fatigue and vigilance; Assertiveness, situation awareness, information acquisition and processing.	In-depth	Not required	Not required	Required	In-depth
Relevant to the flight crew					
Automation and philosophy on the use of automation	Required	In-depth	In-depth	In-depth	In-depth
Specific type-related differences	Required	In-depth	Not required	Required	Required
Monitoring and intervention	Required	In-depth	In-depth	Required	Required
Relevant to the entire aircraft crew					
Shared situational awareness, shared information acquisition and processing; Workload management; Effective communication and co-ordination inside and outside the flight crew compartment	In-depth	Required	Required	Required	In-depth

Leadership, cooperation, synergy, delegation, decision-making, actions;					
Resilience development;					
Surprise and startle effect;					
Cultural differences.					
Relevant to the operator and the organisation					
Operator's safety culture and company culture, standard operating procedures (SOPs), organisational factors linked to the type of operations;	In-depth	Required	In-depth	Required	In-depth
Effective communication and coordination with other operational personnel and ground services.					
Case studies	In-depth	In-depth	In-depth	In-depth	In-depth

APPENDIX 6**FLIGHT CREW HUMAN FACTORS ADVISORY PANEL: TERMS OF REFERENCE****1. MISSION STATEMENT:**

The Flight Crew Human Factors Advisory Panel (the Panel), liaises directly with the UK Civil Aviation Authority (CAA) to identify HF issues. The Panel acts collaboratively in the interest of the aviation Industry by providing cost- effective, timely and high-quality advice and assistance.

2. PURPOSE:

- a) To enhance safety by actively promoting high standards of Flight Crew CRM / HF performance.
- b) To offer guidance, in order to address identified risks in Flight Crew CRM / HF performance.
- c) To ensure the standard of Flight Crew CRM / HF Training is both acceptable and standardised.
- d) To provide advice and proposals to the UK CAA, EASA and the aviation industry about:
 - 1) A common understanding of EASA Flight Crew CRM / HF requirements and any proposed amendments.
 - 2) Standards of Performance for:
 - a) CRM / HF Programmes.
 - b) Operators and CRM Providers.
 - c) The suitable qualification of Company CRM Trainers.
 - d) Personnel involved in assessing or auditing CRM /HF programmes, Providers or Trainers.
 - 3) Active promotion of Threat and Error management (TEM)
- e) To advise and assist the UK CAA when requested:
 - 1) To offer guidance on HF related issues.
 - 2) To support UK CAA Pilot performance initiatives.
 - 3) To independently assess CRM Trainers, or personnel involved in checking them.
 - 4) To act as an arbitrator in the case of disputes over CRM training standards and provide the findings to interested parties.

3. STANDARDS:

- a) The standards and framework required of CRM Trainers and Programmes are laid down in EASA AMC/GM. Additional material can be sourced in CAP 737, Standards Document No. 29 and are supplemented by current Information Notices (IN's) or Training Notices.
- b) The Panel's standards of operating and its procedures will be in direct support of the content of these documents

4. RESPONSIBILITIES:

- a) The Panel will normally meet four times per year.
- b) Members will be expected to attend at least 2 of these meetings per year.
- c) The Panel Chairman will ensure a balanced quorum at each meeting to achieve the Panel's objectives.
- d) In relation to CRM, in a cost effective, timely and effective manner:
 - 1) Provide advice to the CAA on all matters relating to the oversight of CRM /HF Training, including the content of CAP 737 and Standards Document 29.
 - 2) Continually review and recommend procedures to enable companies to suitably qualify CRM Trainers to a consistent and acceptable standard.
 - 3) Be aware and respond to all changes in CRM / HF Legislation.
 - 4) Provide qualified Assessors to act if required as advisors/arbitrators should a dispute arise which relates to CRM training standards.

5. RESOURCES:

- a) Meeting venues and a measure of administrative support will be provided by the UK CAA, where appropriate
- b) Certain fee charging, where appropriate.
- c) Industry support for initiatives, research and events.

6. PERSONNEL:**6.1 Appointment to the Panel**

- a) Prospective members, whether invited or making direct application shall fill an appropriate vacancy, as indicated in Membership (Appendix 1 to Terms of Reference)
- b) All membership applications shall follow the procedure indicated in Applications (Appendix 2 to Terms of Reference)
- c) The Chairman and Vice-Chairman will be nominated by the members, and will hold Office for three years, after which an election will be held. Nothing will stop those in Office offering themselves for re-election.

6.2 Membership Criteria

Any person acting as a member shall be:

- a) Actively involved, or show a proven and credible track record, in the design, development, delivery, improvement or management of CRM / Human Factors training;
- b) Demonstrably interested in the cost-effective application of Human Factors as a major contribution to flight safety; and
- c) Motivated to serve regularly and effectively on the Panel.

APPENDIX 1 to TERMS OF REFERENCE**Membership**

- a) Chaired by a person, acceptable to the UK CAA, who has a recognised background in Human Factors in Aviation:
- b) A deputy chairman, acceptable to the UK CAA, who has a recognised background in Human Factors in Aviation:
- c) UK CAA Gateway:
- d) A Secretary acceptable to, or provided by the UK CAA:

Suitable Members will be selected as required to provide wide-ranging skills covering all aspects of flight crew training and to represent the industry:

- e) Aircraft Manufacturers
- f) ATQP or EBT Specialist
- g) Basic Pilot Training
- h) Cabin Crew and Combined CRM Training
- i) Company SMS / Auditor
- j) Commercial and Corporate Operators
- k) Crew Supply Chain
- l) CRM /HF Specialist Expertise including training design and development
- m) CRM /HF Material Design
- n) EASA Regulations
- o) Ground CRM Training and Trainer Qualification
- p) Links with:
 - BALPA
 - Global and EU Training
 - RAeS and it's Human Factors Group
 - UK Flight Ops Liaison Group (FLOG) and the Training Sub Group (TSG)
 - UK Flight Safety Committee (UKFSC)
- q) On and Offshore Rotary Wing Operations
- r) Oversight conducted by the Regulator

- s) Research / Academic Expertise
- t) Senior Examiners
- u) Simulator and Aircraft Instructors and Examiners
- v) Single Pilot Operations
- w) Training Inspector Standardisation
- x) Training Providers
- y) UK Guidance / Standards Documents and CAP 737

APPENDIX 2 to TERMS OF REFERENCE

Applications

- 1) Applications for membership will be encouraged, welcomed and managed by a Membership Sub-Committee comprising of the Panel Chair, Panel Vice Chair and the UK CAA Representative(s).
- 2) The Panel membership philosophy is to secure an active, appropriately knowledgeable, enthusiastic and independent group with numbers limited to achieve effective progress of the Panel business and skills diversity to ensure balanced advice.
- 3) Prospective new members of the Panel will be either, invited or make direct application. In every case applicants are requested to submit, in the first instance to the Panel Chair, a CV and briefly justify in writing their application, addressing the Terms of Reference (TOR) criteria.
- 4) Provided the Membership Sub-committee find the application acceptable, and a vacancy is identified within the TOR membership criteria. The application will be circulated to establish acceptance and suitability by the full Panel.
- 5) An invitation to attend a meeting as a Guest will follow a majority approval.
- 6) An opportunity for subsequent discussion of the application will be made during or after this meeting as necessary. A simple majority vote of those responding will determine the outcome of a contested decision.
- 7) A successful applicant will be offered full membership to fill the identified vacancy.
- 8) The Membership sub-committee will:
 - a) periodically review all membership and individual contributions; and
 - b) when necessary, using the above consultative mechanism, seek Panel approval for membership cancellation or replacement if suitable explanations for ineffective contribution are not forthcoming.