Australian Government
Civil Aviation Safety Authority

Civil Aviation Advisory Publication

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CAR 217 Flight Crew-Training and checking organisations

This Civil Aviation Advisory Publication (CAAP) provides guidance, interpretation and explanation on complying with the *Civil Aviation Regulations 1988* (CAR) or a Civil Aviation Order (CAO).

This CAAP provides advisory information to the aviation industry in support of a particular CAR or CAO. Ordinarily, the CAAP will provide additional 'how to' information not found in the source CAR, or elsewhere.

A CAAP is not intended to clarify the intent of a CAR, which must be clear from a reading of the regulation itself, nor may the CAAP contain mandatory requirements not contained in legislation.

Note: *Read this advisory publication in conjunction with the appropriate regulations/orders.*

This CAAP will be of interest to:

- Air Operator's Certificate (AOC) holders

- other organisations who are required to have a training and checking organisation approved under subregulation 217 (3) of the *Civil Aviation Regulations 1988 (CAR).*

Why this publication was written
This CAAP was written to provide guidance on the:

- selection, training, and standardisation of flight crew training and checking personnel

- maintenance of flight crew training and checking proficiency records

- collection, analysis and use of operational and training-related data to improve the focus and effectiveness of training programs

- clarification of the relationship between CAR 217 organisations and approvals under regulation 61.040 of the *Civil Aviation Safety Regulations 1998* (CASR).

Status of this CAAP
This is the first CAAP to be written on this subject. It will be revised and re-issued as an Advisory Circular (AC) following the introduction of Part 119 of CASR.

For further information
For further information contact Civil Aviation Safety Authority's (CASA's) Flying Standards Branch (Telephone 131 757).

Contents

1.   The relevant regulations

- Parts 61, 141 and 142 of CASR
- Proposed Parts 91, 119, 121, 133 and 135 (forthcoming) of CASR
- Regulation 217 of CAR
- Civil Aviation Order (CAO) 82 series

2.   Advisory material

- CAAP 215-1
- CAAP 5.14-2 – Appendix D – Flight Instructor Training (Aeroplane)
- CAAP Safety Management Systems (SMS)-3 Appendix C
- CAAP SMS 4 (0)
- Air Operator's Certificate Manual (AOCM)
- Flight Examiner Handbook (FEH)
- International Civil Aviation Organization (ICAO) Document 9995: Manual of Evidence Based Training
- ICAO Document 9841: Manual on the Approval of Training Organisations
- ICAO Document 9868: Training
- ICAO Document 10011 Manual on Aeroplane Upset Prevention and Recovery Training (in draft)
- IATA Evidence-based Training Implementation Guide, July 2013
- European Aviation Safety Agency (EASA_ Acceptable Means of Compliance (AMC) and Guidance Material (GM) to Part ORO
- Federal Aviation Administration (FAA) FAR 121-366. Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers
- The Importance of Quality Data in Evaluating Aircrew Performance. Peder J. Johnson & Timothy E Goldsmith

3. Acronyms

AOC	Air Operator Certificate
AOCM	Air Operators Certificate Manual
CAAP	Civil Aviation Advisory Publication
CAO	Civil Aviation Order
CAR	*Civil Aviation Regulation 1988*
CASA	Civil Aviation Safety Authority
CASR	*Civil Aviation Safety Regulations 1998*
CTPP	Cyclic Training and Proficiency Program
FDAP	Flight Data Analysis Program
FTNS	Flight Test Notification System
HoTC	Head of Training and Checking
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
IPC	Instrument Proficiency Check
KSA	Knowledge, Skills, and Attitudes
LAHSO	Land and Hold Short Operations
LOFT	Line Orientated Flight Training
MOS	Manual of Standards
OPC	Operator Proficiency Check
SMS	Safety Management Systems
TACM	Training and Checking Manual

4. Definitions

AIR OPERATORS CERTIFICATE MANUAL (AOCM) – Part of CASA's AOC Manuals suite which provides applicants with the information on how to obtain an Air Operator's Certificate.

ASSESSMENT – The process of observing, recording, and interpreting individual knowledge and performance against a required standard.

BEHAVIOURAL MARKER – A single non-technical skill or competency within a work environment that contributes to effective or ineffective performance.

BEHAVIOURAL MARKER SYSTEM – An organised set of competency descriptors, collectively representing the domain of non-technical skills required for successful performance in a specified role.

CHECK PILOT – Check pilots approved under Civil Aviation Order (CAO) 82.0. Check pilots may be authorised to conduct operator proficiency checks subject to the conditions of instrument EX140/14.

COMPETENCY –The knowledge, skills and attitudes required for a person to perform a task to a required standard.

COMPETENCY-BASED TRAINING – A structured approach to training and assessment that is directed toward achieving specific outcomes. A person is trained and assessed to meet specified standards that define the knowledge, skills and attitudes required to safely and effectively perform a task.

COMPETENCY STANDARDS – The foundation for competency based training (i.e. knowledge and flight skills include tolerances specified for each syllabus sequence item) required for the privilege of the rating.

CYCLIC TRAINING AND PROFICIENCY PROGRAM (CTPP) – This term was associated with the former CAO 40.2.1 and related to instrument rating recency and proficiency. For the purposes of certain provisions of Part 61 of CASR, the current equivalent term is 'an approved training and checking system'.

FLIGHT CREW MEMBER – A crew member who is a pilot or flight engineer assigned to carry out duties essential to the operation of an aircraft during flight time.

FLIGHT CREW TRAINING AND CHECKING PERSONNEL – Persons involved in the training or checking of flight crew.

FLIGHT EXAMINER – A person holding a CASR Part 61 examiner rating as described in regulations 61.1255 to 61.1305 of CASR. This rating replaces the previous CAR 5.19 delegation.

FLIGHT EXAMINER HANDBOOK (FEH) – Developed by CASA's Flying Standards branch to detail the responsibilities and processes relevant to the duties and conduct of a Flight Examiner.

FLIGHT INSTRUCTOR – A person who is the holder of a Part 61 flight instructor rating as described in regulations 61.1165 to 61.1230 of CASR.

HUMAN FACTORS – Means the minimisation of human error and its consequences by optimising the relationships within systems between people, activities and equipment.

INSTRUCTIONAL SYSTEM DEVELOPMENT – A systematic process of developing a training curriculum, using the principles of competency based training.

PILOT INSTRUCTOR – A person who holds a CASR Part 61 instructor rating as described in regulations 61.1165 to 61.1230 of CASR.

LINE OPERATIONS SAFETY AUDIT – A program for the management of human error in aviation operations aimed at developing countermeasures to operational errors.

MANUAL OF STANDARDS (MOS) – A document that supports the CASRs by providing detailed technical material such as technical specifications or standards. MOS are legislative instruments and are subject to registration and disallowance under the *Legislative Instruments Act 2003*.

NON-TECHNICAL SKILLS – Means specific human competencies, including critical decision making, team communication, situational awareness and workload management, which may minimise human error in aviation.

SIMULATOR INSTRUCTOR – A person who is the holder of a simulator instructor rating as described in regulations 61.1190 to 61.1210 of CASR.

TECHNICAL SKILLS – The manipulative and knowledge skills a pilot employs while operating an aircraft.

TRAINING AND CHECKING ORGANISATION – The requirements for operators to have an approved training and checking organisation are contained in the current regulation 217 of CAR.

> **Note:** Regulation 217 of CAR will be superseded by Part 119 of CASR when it is introduced.

5.   Introduction

5.1   This CAAP provides guidance to AOC holders relating to the following :

- qualifications, selection and education of flight crew training and checking personnel
- roles of flight crew training and checking personnel in a training and checking system holding regulation 61.040 approvals

- ongoing development and standardisation of flight crew training and check personnel
- assessment and grading of flight crew competency
- data gathering and analysis by the AOC holder and CASA for the oversight and continuous improvement processes of training and checking
- effective record keeping of flight crew training and checking activities to preserve an operational standards history
- content of forms for use as flight crew training and checking records.

5.2   Whilst this CAAP refers to CAR 217 flight crew training and checking organisations, some of the principles may offer guidance in relation to training and checking activities concerning other operating crew members.

6.   Requirements of regulation 217 of CAR

6.1   The CAR 217 organisation

6.1.1   The primary role of the CAR 217 organisation is the maintenance of competency for flight crew members. This is a different task to that of Part 141/142 organisations, which focus on Part 61 requirements (for example, initial issue of a rating or endorsement) as well as contracted training and checking. There are different rules that apply to a Part 61 flight test compared to a proficiency check under regulation 217 of CAR.

6.1.2   The International Civil Aviation Organization (ICAO) has highlighted the need for a sound flight crew training and checking system, with consistent assessment and grading, and well maintained records. ICAO Annex 6, Part I, Chapter 9, paragraph 9.3 requires operators to have and maintain appropriate standards and organisational capabilities.

6.1.3   The AOC holder and CASA need to be assured that flight crew receive the proper recurrent training in the technical and non-technical skills necessary to ensure that they are proficient at their duties. The training should be over a range of knowledge, skills and attitudes (KSAs) to meet normal and non-normal operational challenges as well as any unanticipated challenges to the safety of flight.

6.2   The concept of a system for training and checking:

6.2.1   A system is a set of interacting or interdependent components forming an integrated whole. CASA Surveillance Manual defines it thus:

> A system is a group of interrelated processes that are a composite of people, procedures, materials, tools, equipment, facilities and/or software operating in a specific environment to perform a specific task, or achieve a specific purpose.

6.2.2   Major components of the training and checking system will include:

- Head of training and checking (HoTC) and administration staff, organization structure and management processes
- the training and checking manual, the training management system, controlled document management procedures
- task analysis and numbers of examiners, check pilots and training pilots, flight instructors, simulator instructors, ground Instructors
- selection, training and the maintenance of continued competency of training and checking personnel

- the role and magnitude of the quality assurance (QA) audit program and the roles of flight examiners and suitably qualified check personnel in over-sighting the standards of the operator's check pilots

- training records capture and training data analysis

- effective communications protocols

- procedures for review and revision of the TACM, the system and the training and checking matrices

- data management (sources, collection, storage, analysis, use)

- feedback loops (e.g. relationship between FDAP and SMS and revisions to training and checking policy and programs)

- facilities (e.g. classrooms, computer based training systems, flight simulator training devices (FSTDs)

- change management processes and notification to CASA

- relationship with associated Part 141 or 142 organisation(s)

- organisational procedures-meeting schedules, minutes, attendance lists, agenda management, record keeping.

6.3   Tests of competency

6.3.1   Subregulation 217 (2) of CAR requires that all operating flight crew who are part of a training and checking organisation undergo 'two checks of a nature to test the competency of each member of the operator's operating crew. These two checks must be completed every 12 months, but not at intervals of less than 4 months.

6.3.2   A test of competency for flight crew must be carried out to ensure that they can sufficiently carry out normal, non-normal and emergency procedures while operating the aircraft during a flight. These tests can be used to satisfy the proficiency check requirements of Part 61 of CASR, for example, the instrument proficiency check.

6.3.3   A line check on an air route is required under the CAOs; however, this check cannot be used to test emergency and non-normal procedures, and so cannot alone fulfil the role of a test to check the competency of flight crew under subregulation 217 (2) of CAR.

6.3.4   The line check is considered a particularly important factor in the development, maintenance and refinement of high operating standards, and can provide the operator with a valuable indication of the usefulness of their training policy and methods. Line checks are a test of a crew member's ability to perform a complete line operation and an opportunity for an overall assessment of their ability to perform the duties required as specified in the operations manual(s).

6.3.5   For regular passenger transport (RPT) operations, the minimum flight checks that must be used to fulfil the requirement to test the competency of flight crew each 12 calendar months is:

- an instrument proficiency check (aircraft or simulator)

- an operator proficiency check (aircraft or simulator)

- a line check on an air route conducted in an aircraft.

6.3.6   A flight engineer proficiency test may be conducted by observing the flight engineer supporting the pilots during an instrument rating test or an instrument proficiency check, with any additional flight engineer specific normal, non-normal or emergency procedures.

6.3.7   The Part 61 Manual of Standards (MOS) contains the competency standards for all flight crew member qualifications as well as proficiency checks, flight reviews and flight test standards. CAR 217 organisations have the responsibility of maintaining these standards for flight crew members by a system of recurrent checks and the maintenance of appropriate training records.

6.3.8   The standard method of conducting such checks is a recurrent checking program of instrument proficiency and operator proficiency checks with the instrument proficiency check being conducted by an appropriately qualified examiner (holder of a flight examiner rating with the instrument testing endorsement) and notified through CASA's Flight Test Notification System (FTNS).

6.3.9   Alternatively, the recurrent program may be adapted by an operator to suit their training and checking needs. This may require an approval under regulation 61.040 of CASR against the relevant provisions of Part 61 (See section 7 below).

6.4   The use of data in a CAR 217 organisation

6.4.1   An array of data sources can provide a detailed insight into the threats, errors and risks encountered in flight operations and their relationship to undesired consequences.

6.4.2   The integration of this data (and associated analysis) into the training and checking system will significantly enhance the focus and effectiveness of the entire system.

6.4.3   Such data sources will typically be a required focus of the safety assurance component of an operator's SMS and may include:

- brain-storming using experienced operational personnel
- development of risk scenarios
- trend analysis
- feedback from training and checking reports
- flight data analysis programs (FDAP)
- safety surveys and operational oversight safety audits
- monitoring of normal operations
- reliability and incident data from the operator's own aircraft
- reports from outside sources on investigations of accidents, serious incidents and trends.

7.   Approval under regulation 61.040 of CASR

7.1   Part 61 of CASR contains a number of provisions that provide a training and checking system a means of complying with particular regulations via an approval under regulation 61.040 of CASR. Such provisions typically allow for this means of compliance as long as :

- the flight crew member concerned is successfully participating in an operator's training and checking system for an instrument flight rules (IFR) operation in the relevant aircraft
- the operator holds an approval under regulation 61.040 of CASR for the system for this subregulation and in the relevant aircraft.

7.2   In order to gain the 61.040 approval for the training and checking system for the particular provisions the operator must demonstrate to CASA how their training and checking system will manage the maintenance of competency for each Part 61 regulation for which they are seeking the 61.040 approval. In other words, how their training and checking system enables them to meet the intent of the regulation(s), albeit by an alternative means. Once satisfied, CASA will issue the relevant 61.040 approvals.

7.3   Cyclic programs

7.3.1   The intention of providing approvals for training and checking systems under regulation 61.040 of CASR is in line with pre-Part 61 practices under the auspices of a cyclic training and proficiency program or 'cyclic' for short, approved in accordance with the provisions of the former CAO 40.2.1.

7.3.2   These cyclic programs allowed operators to conduct their CAR 217 regulatory training and checking spread in a cyclical manner over a period of time. This also allowed the regulatory requirements of CAR 217 to be met while allowing for extra time in the training syllabus for targeted training elements.

7.4   Entry and exit parameters

7.4.1   The operator will specify in their TACM the methods by which a flight crew member will enter into their approved training and checking system. The system then continually maintains the validity of the licence and rating(s) until the flight crew member exits the system. This is indicated on the flight crew member's licence, backed up by documentation by the operator indicating the holder's ongoing proficiency in exercising the privileges conferred by the rating(s).

7.4.2   CASA only considers the flight crew member as exiting a system once the flight crew member ceases to be employed by the operator or commences employment for another operator (including on secondment). The system must manage periods of absence from line flying duties whether through normal leave or sickness. CASA would expect the system to manage that flight crew member back to the standard required for line flying.

7.4.3   In a training and checking system with approvals under regulation 61.040 of CASR, a flight crew member's compliance with the requirements of Part 61 is met by participation in the approved training and checking system. Accordingly, flight crew members are only authorised to operate the aircraft for the operator under the operator's AOC. If the crewmember wishes to fly aircraft outside of these systems, the flight crew member must comply with the relevant Part 61 requirements for that 'outside' activity.

7.5   Maintenance of qualifications and competency

7.5.1   Under the conditions of the 61.040 approval, once a flight crew member enters an air transport operator's approved training and checking system, the operator's training and checking system is used to maintain the competency of the flight crew member rather than a series of scheduled annual checks conducted by an examiner with a specific testing endorsement.

7.5.2   The operator's program would normally include:

- operator proficiency checks (OPCs)
- line checks
- recurrent ground and flight training and checking
- annual safety and emergency procedures training and checking using suitably qualified personnel.

7.5.3   Any significant changes to the training and checking program shall be submitted to CASA for approval with sufficient lead time for any problems to be identified and rectified.

7.5.4   The approved program will also provide training and assessment in some of, but not limited to, the following items relevant to the type of operations being conducted:

- instrument recency
- type rating recency
- post conversion training
- line checks and route experience
- low visibility operations
- upset prevention and recovery training (UPRT)
- instrument landing system precision runway monitoring (ILS PRM)
- required navigation performance authorisation required (RNP AR).

7.6   Continuing instrument proficiency

7.6.1   Regulation 61.880 of CASR sets out the requirements for the limitations on exercise of privileges of instrument ratings-instrument proficiency checks. This regulation provides three methods by which a person is seen to have a valid instrument proficiency check, thereby continuing to authorise the privileges of the instrument rating. Those methods are:

- subregulation 61.880 (c) – the holder successfully completes an OPC that is conducted by a Part 61 Flight Examiner, which covers IFR operations in the relevant aircraft; or
- subregulation 61.880 (d) – the holder is successfully participating in an operator's training and checking system for an IFR operation, in the relevant aircraft, and the operator holds a CASR 61.040 approval for that training and checking system for this provision; or
- subregulation 61.880 (e) – the holder successfully completes an instrument proficiency check for the relevant aircraft (as described in Schedule 6 of the CASR Part 61 MOS).

7.6.2   Historically, ongoing maintenance of instrument proficiency was achieved by either an approved 'cyclic program' or, by the conduct of an instrument rating renewal by an Authorised Testing Officer (ATO), usually integrated into one of the operator's two checks per year.

7.6.3   For CASA to issue an approval under regulation 61.040 of CASR for the provision of paragraph 61.880 (3) (d), the operator must demonstrate levels of robustness, capability and maturity within their training and checking system adequate to provide for the maintenance of instrument proficiency.

7.6.4   Operators who maintained 'cyclic programs' under the former CAO 40.2.1 have demonstrated these required capabilities to CASA. Equivalent capabilities will be required to be present in training and checking systems that hold an approval under regulation 61.040 for paragraph 61.880 (3) (d) of CASR.

7.6.5   In such an approved system the maintenance of the competency standards required for a pilot to exercise the privilege of the instrument rating must be achieved by the OPCs within the approved system, rather than by instrument proficiency checks (IPCs). These OPCs may be conducted by either flight examiners having the instrument testing endorsement or check pilots approved by CASA to conduct OPCs. The intention of this approval is that, as long as a flight crew member is being successfully managed by an operator's approved training and checking system for the aircraft, the flight crew member is continually deemed to be having a valid IPC for the aircraft.

7.6.6   Since there is no specific IPC in a training and checking system that holds an approval under regulation 61.040 for paragraph 61.880 (3) (d) of CASR, there is no requirement for CASA's FTNS to be used for any of the OPCs conducted by the operator.

7.6.7   The operator's approved check pilots authorised to conduct OPCs must be adequately trained and assessed to conduct the competency checks and to maintain the standards set by the operator.

8.   Flight crew training and checking personnel

8.1   Roles of personnel

8.1.1   Training and checking personnel provide accurate and standardised assessments of the competence of the AOC holder's flight crew. This should be done in such a way that it will help each flight crew member to continue their professional development and keep the AOC holder aware of the health of their flight operations standards.

8.1.2   Flight examiners (and their earlier equivalents) have always held a significant role in the licencing system, in that they are the authorised persons for the issuing and maintenance of standards of licences, ratings and endorsements held by flight crew.

8.1.3   Check pilots may be approved to conduct certain tests and checks depending on their level of qualifications and experience. For example, a check pilot may initially be approved to conduct line checks before being trained and approved to conduct proficiency checks in a flight simulator. This building block approach allows the check pilot to develop the skills required for more complex assessment roles.

8.1.4   Check pilots will be trained and qualified under conditions set out in their operator's training and checking manual. This must provide them with the KSAs necessary to conduct their assigned roles in the approved training and checking system.

8.1.5   Part 61 Flight examiners may also hold a check pilot approval provided they have received training in the policies, processes and procedures of the training and checking system. Due to their Part 61 qualifications, the training pathway for examiners may differ in parts from that of check pilots who do not hold the Part 61 qualifications.

8.1.6   In larger organisations a small number of experienced check pilots may be approved to train and recommend check pilots within that organisation to CASA for final approval. Through audits and a recurrent checking program these experienced check pilots will play a significant role in the maintenance of standards of other check pilot personnel. The design and administration of this aspect of the training and checking organisation has to be approved by CASA, and will depend on the needs of the organisation and how effectively the role can be administered.

8.1.7   In addition to being approved by CASA to conduct operator proficiency checks, check pilots may also conduct other required training and checking duties, such as remedial training, line checks, low visibility operations and land and hold short operations (LAHSO).

8.2   Qualifications of training and checking personnel

8.2.1   A CAR 217 training and checking organisation must maintain the pilot competencies and standards relevant to their operations. Accordingly, the CAR 217 organisation must have personnel appropriately qualified in the maintenance of such competencies.

8.2.2   Check pilots whose responsibilities include operator proficiency checks, assessments of standards, conduct of repeat exercises and remedial training shall have the following skill sets:

- instructional competencies
- assessment and testing competencies

- competencies in managing assigned tasks in the operations of the training and checking system.

8.2.3   The operator specified approved check pilot competencies may be quite similar to the Part 61 MOS competencies for the flight examiner and instructor roles; however, the specified approved check pilot competencies may focus more on the specific needs of the operator. For example, CASA would expect some operator specified competencies to be very similar to that specified in the Part 61 MOS (for example the non-technical skills competencies under NTS 1 and 2).

8.2.4   The operator's training and checking system shall describe the methods by which the organisation's check pilot's training and checking standards will be maintained. This will be achieved through recurrent training and regular reviews by experienced check pilots, specifically selected, appropriately trained and qualified for the task.

8.2.5   In addition to the operator's internal standards validation procedures, CASA will regularly conduct assessments of proficiency of the check pilots in their assigned roles. CASA may:

- undertake regular surveillance of the check pilots in their assigned roles. This would typically take place at intervals of no more than 3 years
- conduct regular observation of the check pilots' own flying standards by including their OPCs in the surveillance program.

8.3   Task and workload analysis

8.3.1   When determining the structure of the flight crew training and checking group, the AOC holder should complete a full job task analysis for each position.

8.3.2   The competencies identified by the task analysis should be established in the position descriptions. These descriptions should also set out the experience and qualifications considered necessary for each position and be used to select and promote flight crew training and checking personnel.

8.3.3   Each AOC holder must provide a sufficient number of suitably qualified and experienced training and checking personnel to meet the training and checking needs of the AOC holder's flight operations. Planning for the number of personnel should make allowance for:

- personal leave
- sick leave
- rostering practices
- promotion
- the introduction of new aircraft types.

8.3.4   The process used in deriving the number of required personnel should be described in the TACM.

8.3.5   While the role titles of training and checking personnel may vary between organisations (i.e. Accreditor or Senior Check Pilot) it is essential that the roles, required qualifications and responsibilities assigned to each position are clearly set out in a position description, and that description is included in the training and checking manual.

8.4   CAR 217 personnel training

8.4.1   All personnel within a training and checking system must be trained and assessed to conduct their duties within the system. The training and checking manual will document the training syllabus for all roles within the system.

8.4.2   Flight crew training and checking personnel may consist of, but are not limited to:

- flight examiners
- check pilots
- pilot instructors
- line training pilots
- cabin crew trainers
- ground instructors.

8.4.3   Flight crew training and checking personnel should have the following high-level KSAs:

- technical skill for the aircraft and the operating environment so that they are able to maintain sufficient margins of safety when training or assessing in an aircraft
- in the case of training and checking conducted in flight simulators, the ability to conduct the training/checking session and operate the Instructor's Operating Station (I.O.S) with no degradation of the ability to observe training outcomes
- ability to make sound competency assessments and to record this information in a fair and impartial manner.
- non-technical skills that reflect company policies and procedures:
  - the flight crew training and checking personnel should be an advocate by example for the non-technical skills supported by the training and checking manual and be able to demonstrate and instill those skills in flight crew
- the ability to separate training tasks from checking tasks and to encourage the development of technical and non-technical skills among the operator's flight crew and in the specific flight operations environment
- the ability to apply the skills of effective briefing and de-briefing to the flight crew training and checking role, including inducting and imbuing new flight crew in the company culture to meet the organisation's flight operation's needs
- capacity to grow with the demands of the organisation, changing technology, and developing knowledge in technical and non-technical assessment and grading practices for that operation.

8.4.4   All internal procedures require certain administrative processes for the effective and efficient operation of a training and checking organisation. Suitable personnel must be able and willing to ensure that the administrative processes are followed.

8.4.5   The proper maintenance of pilot training records is essential to the sound management of a training and checking system. All personnel involved in training and checking functions should be trained and monitored in the correct method of reporting and recording the results of training and checking activity.

8.4.6   Under subregulation 217 (4) of CAR, the crew members fulfilling the positions listed in the AOC holders training and checking organisation do not need to be Part 61 instructors in order to fulfil the roles assigned to them; however, approvals are given by CASA on the basis that they have completed the operator's approved internal instruction training and have been assessed by CASA.

8.4.7   Flight crew training and check personnel should be taught the theory and practice of training and assessment as established in the AOC holder's approved training and checking manual.

8.4.8   Each AOC holder's training program for flight crew training and checking personnel should include, at a minimum:

- the AOC holder's recognition of a flight crew's previous training and checking qualifications
- instructional system design
- competency-based training
- evidence-based training, data feedback loops (if any)
- principles and methods of instruction (PMI)—Refer to Appendix D of CAAP 5.14-2, which includes:
  - lesson preparation
  - presentation
  - discussion
  - questioning
  - assessment
  - adult learning
  - briefing and debriefing
- regulatory knowledge and application
- knowledge of relevant legislation and advisory and operational publications
- relationship of flight crew training and checking personnel to various CASA requirements
- understanding and applying the information contained in the training and checking manual
- flight operations structure
- management of flight operations
- understanding the competencies making up technical skills
- understanding human factors (including threat and error management [TEM], crew resource management and other non-technical skills)
- conducting training and check flights
- assessing and grading of technical and non-technical skills
- standardisation between check flight crew
- company training and checking administration, which includes:
  - company forms
  - company administrative processes
  - company assessment and grading system
  - company pass/fail criteria
  - company repeat policy for exercises or sessions
  - action in the case of a flight crew member being unable to demonstrate competency.

8.4.9   The AOC holder's practical training and checking program must be approved by CASA under subregulation 217 (3) of CAR and tailored to the specific needs of the roles for which the flight crew member is being trained.

8.4.10   Practical training on the aircraft and/or simulator should include:

- observation of assessments being done by an approved flight crew training and checking personnel

- management of the simulator
- exercises in the simulator
- management of practice emergency and non-normal procedures
- right-hand seat training (if required)
- standardisation training by the flight operations group
- checks conducted by the trainee and observed by an experienced check pilot
- a final check flight conducted by CASA or with the AOC holder's CASA approved check pilot.

8.5   Limitations on flight crew training and checking personnel

8.5.1   Flight crew training and checking personnel are approved to work for a specific AOC holder. They must follow the training and checking practices set out in the AOC holder's approved training and checking manual. It is essential that the AOC holder develops and maintains a set of standard operating procedures for use by flight crew training and checking personnel and reinforces the use of those procedures through their training and oversight programs.

8.5.2   Flight crew training and checking personnel must follow the training and checking practices set out in the AOC holder's approved training and checking manual. It is essential that the AOC holder develops and maintains a set of standard operating procedures for use by these personnel and reinforces the use of those procedures through training and oversight.

8.5.3   The standard required to be observed by the flight crew check personnel is the standard described in the AOC holder's operations manual.

8.5.4   Each AOC holder will have a regular program of internal audits for their flight crew check personnel to ensure that their assessment standard remains consistent.

8.5.5   Renewal of flight crew check authorisations shall be in accordance with the requirements of their instrument of approval and planned well in advance of the expiry of the authorisations.

8.5.6   Flight crew check personnel should be rostered adequate hours for non-training line flying, across a reasonable spread of the duties for which they are approved. This is to ensure that skills in all areas of their approval remain well exercised so that an even standard will be maintained across all approvals.

8.6   Standardisation

8.6.1   Modern systems gather and analyse data from training and checking activities to produce a picture of the operational safety health of individual flight crew and the flight operations group as a whole. The effectiveness of data gathering depends on the accuracy of the information fed into the database. This is controlled by the accuracy and consistency of the assessors and the validity of the events used for assessment.

8.6.2   The purpose of a standardisation program is to improve consistency in the assessments made by all flight crew training and check personnel. This will give the AOC holder a reliable picture of the level of safety of their flight crew and provide evidence to show those areas where more training is needed.

8.6.3   Without such standardisation, the subjective nature of an individual's judgement makes it unlikely that two check flight crew members would reach the same evaluation of the same crew, performing the same task/activity.

8.6.4   The principles of flight crew check personnel standardisation should be used at all levels of assessment, but to a degree that relates to the size and scope of the flight operation.

8.6.5   Standardisation training may be achieved by using presentations of scripted events from the AOC holder's assessment program. These presentations will use the most appropriate form of media and should contain variations from standard procedures and specific observed behaviours, both positive and negative.

8.6.6   The presentations are assessed by a group of very experienced check flight crew. The group would discuss and agree on the grades that are applied to the various events shown in the presentations. The result of that assessment is used to establish a base standard for training and standardisation. These presentations would then be shown to trainee check flight crew, who will use the company grading sheets to assess and grade each event. Analysis of the results will provide a measure of the accuracy of the assessments made by the trainee flight crew check personnel.

8.6.7   Reliability is made up of two other measures, sensitivity and accuracy.

Sensitivity: is a measure of how the assessor's mark follows the changes in performance of the various events. It indicates that the assessor's grading of each event will follow the standard for that event. While the assessor may not give the same mark as the standard, the results given for each event will vary from the standard by a similar amount.

This method may be quantified and can be referred to as Rater-Referent Reliability (RRR) and is a measure of how closely an assessor agrees with the standard marks (the 'gold standard') that a group of experts have established for the scripted events.

Note: Inter-Rater Reliability (IRR) is a sensitivity measure of how closely a group of raters agree with each other. This does not refer to a standard grading, but measures the results of the assessors' gradings against one another.

Accuracy: the trainee matches the mark allocated for the standard assessments. It is calculated by averaging the absolute deviations between the assessor's grade, and the standard grade, for each event. The smaller the deviation, the more accurate the assessments.

Accuracy also includes congruency, which is a measure of how consistent the assessor's distribution of grades is with the distribution of the standard gradings established from the 'gold standard' videos by the expert group.

8.6.8   While these measures can demonstrate how reliable the assessments are, it should also be determined that the process is measuring the validity, the quality and the appropriateness of the data gathered.

8.6.9   The results of this analysis are given to the individual check flight crew member. Through self-review and guidance from flight operations management, standardisation can be improved and maintained over a period of time.

8.6.10   In addition to this, the data gathered from actual assessments of line operations crew can be used to assess the consistency of marking across the flight crew, and individual check flight crew members are compared to their fellow crew members to measure their assessing consistency in comparison to the group.

8.6.11   The method of gathering the data is usually a form (either hard copy, or direct entry to a computer system) that is completed by the assessor entering a grade for various events. The method used to complete the grading for each event should be set out for the assessor in a series of 'word pictures' that describe the standard, or the behaviours to be observed during the assessment. These word pictures should form part of the AOC holder's assessment and grading system.

8.6.12   The flight operations management team should hold regular meetings of flight crew check personnel and use flight operations communications to provide guidance to gather and assess feedback relating to flight crew check personnel and their use of the system.

8.6.13   Refer to CAAP 215-1 for additional information on the development of an operations manual (including a training and checking manual).

9.   Flight crew records

9.1   The collection, storage, analysis, use and security of training data and records are a critical part of the safe, efficient and robust operation of a successful training and checking organisation.

9.2   The increasing use of electronic data collection and management systems does not lessen the need for high quality records management. This will be especially true during periods where hard copy and electronic systems are running in parallel and where historic hard copy data is being transferred into electronic format.

9.3   In order to maintain SMS and embrace evidence-based training (EBT), the organisation must ensure their data and records management processes are adequate for the task. Shortcomings can occur in many areas, for example:

- records that do not contain all the information required by regulation
- incomplete or poorly completed training forms
- incomplete training histories
- an inconsistent and poorly managed approach to the maintenance of pilot training records
- undocumented reasons for the cessation of employment of pilots, sometimes after a training or checking issue
- out of date forms, inadequate stock, use of 'personal stocks' or non-standard company forms held by individual check pilots.

9.4   Deficiencies such as these make it difficult to understand the training history of many pilots. It is also hard to follow the processes that may have taken place to remedy training difficulties throughout a pilot's career and to see what has been done when a pilot experiences continual difficulties maintaining the standard required by that AOC holder's operations manuals.

9.5   If a pilot requires ongoing training support to maintain the standard required by the operations manual, it may not be possible for the company or CASA to monitor and follow that support.

9.6   Appendices to the CAOs provide guidance to setting up the files required under CAR 217. These are set-out in:

- clause 2.4 of Appendix 1 to CAO 82.1
- clause 5 of Appendix 2 to CAO 82.3
- clause 5 of Appendix 2 to CAO 82.5.

9.7   The appendices also include the required employment history to be kept on file, so as to help establish a standard practice throughout the industry.

9.8   The AOC holder should assign the responsibility for maintaining flight crew files and records to a position or person, with back-up support for leave, promotion and unplanned resignation. This information should be included in the operations manual.

9.9   The designated person(s) should have adequate resources and management support to design and document an administrative process to:

- control the collection of all flight crew related records
- verify that all records are collected and checked to be correct and complete

- return incorrect and incomplete records and forms to instructors, flight crew training and check personnel and the chief pilot's delegate for correction
- ensure that all completed training and proficiency forms are available for review by flight operations management
- control the filing/scanning of records (either scanned or database) into each file
- provide regular reports of flight crew recency, currency etc.
- ensure that correct and up to date information is available for crew planners and schedulers
- use data from these proficiency records to measure the ongoing health of the flight operations training and proficiency program
- conduct regular audits of flight crew files and records.

9.9.1   The training and checking manuals will include instructions to all flight crew training and checking personnel on the correct method of:

- completing the forms
- handling and submission of forms
- replacing the stock of redundant forms when new ones are issued
- checking the currency and validity of forms they are using (and not to maintain a personal store of forms).

9.10   Each flight crew member should have a file that gathers the information together under the sub-sections of:

- personal records
- administrative records
- training and proficiency records.

9.11   Personal records

9.11.1   The personal records section will record relevant personal details (e.g. name. address, contact details).

9.12   Administrative records

9.12.1   The administrative records section should, at a minimum, hold the following information:

- flight crew licences, ratings and endorsements
- medical renewals with copies of up to date certificates
- aircraft class and type ratings
- CAO 20.11 certificates to include dates for:
  - ditching procedure in water (wet)
  - land emergency evacuation procedure
- dangerous goods training
- check flight crew approvals
- low visibility competency, including:
  - Special Authorisation (SA) Category I and II
  - Category II and III
  - Head-up Display (HUD)

- route qualifications
- other competency or recency information relating to particular operational approvals and authorisations (such as specific approach approvals).

9.13   Training and proficiency records

9.13.1   The training and proficiency records section should contain the following information, however described by the operator. This section should also include recommendations for action by the flight operations training group following a failure to maintain the standard required by the operations manual. Evidence of due process following failure to maintain a standard should also be included in the file, including:

- all ground training and checking
- aircraft type or class ratings
- line training, progress checks and cleared to line checks
- proficiency checks
- line or route checks in aircraft
- recurrent training records
- route qualification records
- flight crew training and check personnel training and competency checks
- remedial training
- cruise relief training
- upgrade to command.

9.13.2   All flight crew training and proficiency records must be stored and be retrievable in an orderly manner so that it is easy to review the completeness of each record and file, and to verify that the training, and any remedial training, has been completed successfully.

9.14   Management systems should also be established in the operations manual to control the design, amendment, approval and distribution of training and checking forms (see sample forms in Appendix A). Responsibility and authority for the management of each form or group of forms should be documented in the operations manual. Each form should have an identification assigned to it and a date when it became active.

9.15   Header section should capture:

- date
- name or description of training or check
- flight crew name and ARN
- flight crew training or check personnel name and ARN
- aircraft registration / simulator designation
- flight time for exercise:
  - total flight time
  - day and night flight time
  - instrument flight time.

9.16   The body of form should provide space to include:

- details of individual exercises, tests or events
- number of times each exercise, test or event is attempted

- result for each successful exercise, test or event
- comments on each exercise, test or event
- grading and reason codes for each exercise, test or event.

9.17   The footer section should capture:

- overall result of training or proficiency test
- remarks or comments
- recommendation for next training or check training activity
- signature space for training or check personnel
- signature space for flight crew member to acknowledge sighting of a report
- name and signature of chief pilot or designate who reviews the result
- check box to show that result and form has been reviewed by the chief pilot or designate
- comments by chief pilot or designate
- any planned remedial training
- certification that data has been entered, form scanned and/or filed.

9.18   Typical types of forms to be provided include:

- commencing employment audit forms
- ground schools (various)
- aircraft ratings
- cadet training forms
- multi crew co-ordination pilot training and familiarisation
- line supernumerary experience forms
- line training form
- line check on a route (clearance to line check)
- line check on a route (recurrent line check)
- simulator flight proficiency checks
- aircraft flight proficiency checks
- simulator CTTP forms (various)
- right hand seat training/proficiency forms
- instrument rating issue or renewal forms
- cruise relief training forms
- command training
- low visibility training forms
- training forms for various approvals
- dangerous goods training forms
- CAO 20.11 assessment forms
- recurrent training forms
- command assessment
- flight crew training personnel training forms
- flight crew training and checking personnel training and renewal forms

- leaving employment audit form

- other forms as required (e.g. as relief pilot-in-command and relief co-pilot)

Executive Manager
Standards Division

July 2015

APPENDIX A – Sample forms

Simulator assessment form

Australian Government
Civil Aviation Safety Authority

Captain / First Officer Name:	ARN:	Staff Number:
Check Pilot:	ARN:	A/C Type:
Other Crew:	ARN:	Date:

Cyclic No. _____ RHS ☐	Revalidation ☐	Command Progress Check ☐
Simulator No: _____	Other Check _____	

	N/A	RPT	Grading					Reason Code
			1	2	3	4	5	
1. Pre-Flight Planning and Preparation								
2. Take off : Crosswind: ……………kts. Visibility ……………m								
3. Rejected Take off								
4. Engine Failure after V_1								
5. Initial climb: Type ………………								
6. Descent Planning								
7. Visual Approach : Type ……………………………….								
8. Instrument Approach (1): Type ……………………….								
9. Instrument Approach (2): Type: ……………………….								
10. Go-Around All engines ☐ OEI ☐								
11. Approach and Landing: All engines ☐ OEI ☐ Visibility …………..m								
12. Low Visibility Operations: Type:…………………..								
13. Support Duties (PNF)								
14. Systems Knowledge								
15. Standard Operating Procedures								
16. Minimum Equipment List								
17. Emergency / Non Normal Procedures								
18. Command (Captain)								
19. Command Potential (First Officer)								

								Element
20. Communication and Teamwork								
21. Leadership and Management								
22. Situation Awareness								
23. Decision Making								

Pilot Name:	
Item	**Comments:**

Command Potential:

Flight Times   Day: Nite: Instrument:

Check Pilot: *The above named pilot has been assessed to be* ***PROFICIENT / NOT PROFICIENT***.

Additional simulator training **IS RECOMMENDED** ☐

Name: Signature: Date:

Pilot: *I have been debriefed by the check pilot and have read this report.*

Name: Signature: Date:

Reviewed By Standards Manager:

Name: Signature: Date:

Additional Training Programmed:

Name: Initials: Date:

Entered in Training Record.

Name: Initials: Date:

Line operations assessment form

Australian Government
Civil Aviation Safety Authority

Captain / First Officer Name:	ARN:	Staff Number:
Check Pilot:	ARN:	A/C Type:
Other Crew:	ARN:	Date:

Annual Line Check: ☐   Clearance to Line Check ☐

Aircraft Reg: _____   Other Check _____

Route:	N/A	RPT	Grading					Reason Code
			1	2	3	4	5	
1. Pre-Flight Planning								
2. Ground handling (Pre / Post – Flight / Taxying)								
3. Takeoff : Crosswind: ………. kts / Visibility: ………………………. m								
4. Initial climb. Type: …………….								
5. Cruise								
6. Descent Planning								
7. Visual Approach : Type ……………………..								
8. Circling Approach								
9. Instrument Approach (1): Type …………………………………….								
10. Instrument Approach (2): Type …………………………………….								
11. Landings: Crosswind: …………..kts./ Visibility ………………… m								
12. Support Duties (PNF)								
13. Systems Knowledge								
14. Standard Operating Procedures								
15. Minimum Equipment List								
16. Emergency / Non Normal Procedures								
17. Command (Captain)								
18. Command Potential (First Officer)								

		Element
19. Communication and Teamwork		
20. Leadership and Management		
21. Situation Awareness		
22. Decision Making		

Pilot Name:

Item	Comment:

Command Potential:

Flight Times   Day: Nite: Instrument:

Check Pilot: *The above named pilot has been assessed to be* **PROFICIENT** / **NOT PROFICIENT**.

Additional simulator training **IS RECOMMENDED** ☐

Name: Signature: Date:

Pilot: *I have been debriefed by the check pilot and have read this report.*

Name: Signature: Date:

Reviewed By Standards Manager:

Name: Signature: Date:

Additional Training Programmed:

Name: Initials: Date:

Entered in Training Record.

Name: Initials: Date: