



Civil Aviation Authority of Singapore

Manual of Standards - Licensing of Air Traffic Control Personnel

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Civil Aviation Authority of Singapore

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AMENDMENT RECORDS

The amendments listed below have been incorporated into this copy of the Manual of Standards – Licensing of ATC Personnel.

Amendment no.	Version no.	Subject	Sections affected	Effective date
	1.0	Original version	All	1 May 2009
1	1.1	Table of Contents Foreword Definitions and Abbreviations Introduction – General Provisions General rules concerning licences Recency requirements Minimum experience and qualification requirements for on-the-job training instructors and check controllers	Pg iii to v Pg viii Pg ix to xii 1.1 1.2.1.2, 1.2.3.2, 1.2.3.3 2.2.7.3, 2.2.7.4 3.1	6 May 2010

Amendment no.	Version no.	Subject	Sections affected	Effective date
1	1.1	<p>Medical requirements</p> <p>Decrease in medical fitness and reporting procedures</p> <p>Class 3 medical examination and medical fitness requirements</p> <p>Instructors' qualifications in Approved Training Organisation</p> <p>Recommended syllabus for on-the-job training instructor course</p>	<p>4.1.2.1</p> <p>4.1.3.1, 4.1.3.2</p> <p>Appendix 1</p> <p>5.3 Appendix 2</p> <p>Appendix 6</p>	6 May 2010
2	1.2	<p>Table of Contents</p> <p>Medical fitness</p> <p>Authorised Check Controller</p>	<p>Pg iv</p> <p>1.2.2.1, 1.2.2.2</p> <p>3.1, 3.1.2, 3.1.2.1, 3.1.4, 3.1.4.1 to 3.1.4.7</p>	14 Apr 2011

Amendment no.	Version no.	Subject	Sections affected	Effective date
3	1.3	Table of Contents Foreword Definitions and Abbreviations General Provisions General rules concerning licence Requirements for the issue of a licence Requirements for Air Traffic Control Rating On-the-job training instructors and Authorised Check Controllers Class 3 Medical Assessment SPECIFICATIONS FOR ATC LICENCE Approved Training Organisation (Appendix 2) Application for an ATC Licence(Appendix 5)	Pg iv, v Pg viii Pg x, xii 1.17, 1.18, 1.1.11(c) 1.2.8.1, 1.2.8.2 2.1.1.2, 2.1.4.1, 2.1.5.2 2.2.4.3, 2.2.8.1 3.1.1.2, 3.1.3.4, 3.1.4.7 4.1.3.1 Chapter 5 deleted 2.1, 4.1, 6.1, 7.1, 8.1, 9.1 Appendix 5A, 5B and 5C	16 Jan 2012

Amendment no.	Version no.	Subject	Sections affected	Effective date
4	1.4	Table of Contents	Pg iv	31 Aug 2015
		Foreword	Pg xi	
		Definitions and Abbreviations	Pg xii, xiii	
		Requirements for the issue of the licence	2.1.1.3	
		Requirements for Air Traffic Control Rating	2.2.1.1, 2.2.4.2, 2.2.5.2, 2.2.7.1, 2.2.7.2, 2.2.7.3	
		On-the-job training instructors, Authorised Check Controllers and Senior Authorised Check Controllers	3.1.1.1, 3.1.1.2, 3.1.2, 3.1.2.1, 3.1.3.3, 3.1.4, 3.1.4.1, 3.1.4.2, 3.1.4.3, 3.1.4.7, 3.1.5.1, 3.1.5.2, 3.1.5.3, 3.1.5.4	
		Air Traffic Control Training Organisation (Appendix 2)	2.1, 2.3, 2.4, 8.2	
		Application for Approval of an ATC Training Organisation (Attachment A)	Deleted	
		Application for an Air Traffic Controller Licence (Attachment B1)	Deleted	

Amendment no.	Version no.	Subject	Sections affected	Effective date
4	1.4	Application for the Renewal of an Air Traffic Controller Licence (Attachment B2)	Deleted	31 Aug 2015
		Application for the Replacement of an Air Traffic Controller Licence (Attachment B3)	Deleted	
5	1.5	Table of Contents Foreword Definitions and Abbreviations General Provisions Medical fitness Validity of licence Approved training and approved training organisation Requirements for the issue of the licence Signature required	Pg iii Deleted Pg xiii, xv 1.1.1, 1.1.3, 1.1.6, 1.1.7, 1.1.8, 1.1.9, 1.1.10 1.2.2.1 1.2.5.3 1.2.8, 1.2.8.1, 1.2.8.2, 1.2.8.3, 1.2.8.4 2.1.1.1(b) 2.1.2, 2.1.2.1	1 Feb 2017

Amendment no.	Version no.	Subject	Sections affected	Effective date
5	1.5	Requirements for air traffic controller ratings Grant of air traffic controller ratings Validity of ratings Recency requirements On-The-Job Training Instructor (OJTI) Authorised Check Controller Air Traffic Control Training Organisation (Appendix 2) Approved Training Programme for Air Traffic Controller Licence (Appendix 4)	2.2.2.2 2.2.4, 2.2.4.1, 2.2.4.2, 2.2.4.3 2.2.6.1, 2.2.6.2 2.2.7.4 3.1.3.4 3.1.4.5, 3.1.4.7 Appendix 2 Appendix 4	1 Feb 2017
6	1.6	Definitions and Abbreviations Grant, renewal and validity of an air traffic controller licence Recency requirements Termination of service	Pg xv 2.1.3.3 2.2.7.1, 2.2.7.2, 2.2.7.3 2.2.8.1	1 Nov 2017

Amendment no.	Version no.	Subject	Sections affected	Effective date
7	1.7	Definitions and Abbreviations Roles and responsibilities Validity of licence Recency requirements Revocation and suspension of an air traffic control licence Categories of air traffic controller ratings Recency requirements	Pg xiii - xv 1.2.4.1 1.2.5.3 2.1.5 2.2.7 2.2.1.1 2.2.7.1, 2.2.7.2, 2.2.7.3	1 Jan 2020
8	1.8	Definitions and Abbreviations Requirements for the issue of the licence Requirements for air traffic controller ratings On-the-Job Training Instructor (OJTI)	Pg xiv 2.1.1.1, 2.1.1.3 2.2.2.1 3.1.3	5 Nov 2020

DEFINITIONS and ABBREVIATIONS

Definitions

Aerodrome Control Service

Air traffic control service for aerodrome traffic.

Air Traffic

All aircraft in flight or operating on the manoeuvring area of an aerodrome.

Air Traffic Controller Licence

An air traffic controller licence granted or renewed under paragraph 62A (2) of the Air Navigation Order.

Air Traffic Control Service

A service provided for the purpose of:

- a) preventing collisions:
 - i) between aircraft, and
 - ii) on the manoeuvring area between aircraft and obstructions; and
- b) expediting and maintaining an orderly flow of air traffic.

Air Traffic Service

A generic term meaning variously flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).

ANS Regulator

The CAAS Division that carries out safety regulatory oversight of the provision of air navigation services pursuant to the CAAS (Air Navigation Services) Directions 2010 as amended by the CAAS (Air Navigation Services) (Amendment) Directions 2011.

Approach Control Service

Air traffic control service for arriving or departing controlled flights.

Approved Training

Training conducted under special curricula and supervision approved by the DGCA.

Approved Training Organisation

An organisation approved by and operating under the supervision of the DGCA in accordance with the requirements of MOS-ATCTO to perform training.

Area Control Service

A unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction.

Competency

A dimension of human performance that is used to reliably predict successful performance on the job and is manifested and observed through behaviors that mobilise the relevant knowledge, skills and attitudes to carry out activities or tasks under the conditions specified by the Air Navigation Service Provider.

Designated Medical Examiner

A person who –

- a) is qualified and licensed to practice medicine in Singapore or elsewhere;
- b) has received training in the practice of aviation medicine and has demonstrated adequate competency in aviation medicine;
- c) possesses the practical knowledge and experience of the aviation environment; and
- d) is appointed by the DGCA to conduct a medical examination of and report on the fitness of an applicant for a licence or rating for which medical requirements are prescribed in the Fourteenth Schedule of the Air Navigation Order.

Flight Information Service

A service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

Human Performance

Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations

Manoeuvring Area

Part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, but does not include aprons.

Rated Air Traffic Controller

An air traffic controller holding a licence and valid rating appropriate to the privileges to be exercised.

Rating

An authorisation entered on or associated with a licence and forming part thereof, stating special conditions, privileges or limitations pertaining to such licence.

Abbreviations

ANO	Air Navigation Order
ANSP	Air Navigation Service Provider
ATC	Air Traffic Control
ATCO	Air Traffic Control Officer
ATS	Air Traffic Services
CAMB	Civil Aviation Medical Board
DME	Designated Medical Examiner
ICAO	International Civil Aviation Organisation
MOS-ATCTO	Manual of Standards – Air Traffic Control Training Organisations
OJTIs	On-The-Job Training Instructors
SPL	Safety Policy and Licensing

Chapter 1 – INTRODUCTION

Section 1.1 – General provisions

- 1.1.1 Pursuant to paragraph 62A of the Singapore Air Navigation Order, the Manual of Standards – Licensing of Air Traffic Control Personnel is published by the Authority. This Manual of Standards – Licensing of Air Traffic Control Personnel (MOS-PEL) contains the standards, requirements and procedures pertaining to the licensing and rating requirements of air traffic control personnel. In this Manual, the term service provider refers to the air navigation service provider (ANSP) and/or the ATC training organisation
- 1.1.2 This Manual is based mainly on compliance with ICAO Annex 1 – Personnel Licensing.
- 1.1.3 *Reserved*
- 1.1.4 Where there is a difference between a standard in this Manual and that of ICAO Annex 1, the standard in this Manual shall prevail.
- 1.1.5 Differences, where they exist, between the standards in this Manual and those contained in the ICAO Annex 1 shall be published in section GEN 1.7 of the Singapore Aeronautical Information Publication and also notified to ICAO.
- 1.1.6 *Reserved*
- 1.1.7 *Reserved*
- 1.1.8 *Reserved*
- 1.1.9 *Reserved*
- 1.1.10 *Reserved.*
- 1.1.11 In addition to the Manual of Standards, the following may also be issued as and when required to supplement the Manual of Standards:
- (a) Safety Directive – this is a mandatory requirement to be complied by the service provider. It is published for purposes of immediate promulgation of local standards and recommended practices in response to, but not limited to, amendments to ICAO Annexes. The Safety Directives will be incorporated into subsequent amendments of the Manual of Standards.
 - (b) Safety Publication – this is published for purposes of promulgating supplementary guidance materials to the standards and recommended practices in the Manual of

Standards. The publications are intended to provide recommendations and guidance to illustrate a means, but not necessarily the only means, of complying with the Manual of Standards. Safety Publications may explain certain regulatory requirements by providing interpretive and explanatory materials.

- (c) Information Circular – this is published for purposes of bringing to the attention of the service provider educational materials related to aviation safety. The publications could be initiated as a result of ICAO State letters which do not require immediate changes to local regulations, new safety initiatives or international best practices. The service provider is encouraged to review and adopt the material if practicable. Where appropriate, the material in the publications may be incorporated into subsequent amendments of the Manual of Standards.

Section 1.2 – General rules concerning licences

1.2.1 Air traffic controller licence

- 1.2.1.1 An air traffic controller licence shall be issued in accordance with the requirements in the Singapore Air Navigation Order and this Manual of Standards – Licensing of ATC Personnel.
- 1.2.1.2 All qualified ATCOs shall be in possession of a valid air traffic controller licence before they can provide any air traffic service. A person shall not provide an air traffic control service unless he holds an air traffic control licence with a valid rating and a current medical certificate.

1.2.2 Medical fitness

- 1.2.2.1 *Reserved*
- 1.2.2.2 The applicant for an air traffic controller licence shall hold a Class 3 Medical Assessment issued in accordance with the provisions contained in Section 4.1 of this manual.

1.2.3 Privileges of the holder of a licence

- 1.2.3.1 An air traffic control licence authorises the holder to exercise the privileges of any current air traffic controller ratings and validations held.
- 1.2.3.2 No person shall:
- (a) act as an air traffic controller;
 - (b) hold himself out, whether by use of radio call sign or otherwise, as an air traffic controller or
 - (c) supervise or train any person to act as an air traffic controller,
- unless he holds an air traffic controller licence granted or renewed under this paragraph stipulating the appropriate rating.
- 1.2.3.3 Notwithstanding paragraph 1.2.3.2 above, a person who is undergoing on-the-job training to act as an air traffic controller shall be entitled to hold himself out, whether by use of radio call sign or otherwise, as an air traffic controller, if he holds a current Class 3 medical assessment and if he is directly supervised by a person –
- (a) who holds an air traffic controller licence; and
 - (b) whose air traffic controller licence stipulates the appropriate rating.

1.2.3.4 The air traffic controller licence shall be retained by the person to whom it has been issued and be available for presentation on demand whenever the privileges of the licence are being exercised.

1.2.4 Roles and responsibilities

1.2.4.1 The holder of an air traffic controller licence who provides an air traffic control service may only exercise the privileges of his licence and ratings:

- (a) in accordance with the conditions associated with his medical certificate;
- (b) if he has passed a proficiency check conducted by the DGCA within the preceding 12 months, and;
- (c) in accordance with the conditions established by the ANSP pertaining to recency and competency.

1.2.5 Validity of licence

1.2.5.1 The validity of the air traffic controller licence shall coincide with the validity of the medical certification, unless otherwise stated.

1.2.5.2 An air traffic controller shall not be authorised to exercise the privileges of any rating if the period of validity of his licence has expired.

1.2.6 Decrease in medical fitness

1.2.6.1 The holders of an air traffic controller licence shall not exercise the privileges of their licences and related ratings at any time when they are aware of any decrease in their medical fitness which might render them unable to safely and properly exercise these privileges.

1.2.7 Use of psychoactive substances

- 1.2.7.1 The holders of an air traffic controller licence shall not exercise the privileges of their licences and related ratings while under the influence of any psychoactive substance which might render them unable to safely and properly exercise these privileges.
- 1.2.7.2 The holders of an air traffic controller licence shall not at any time engage in a problematic use of substances.

1.2.8 *Reserved*

- 1.2.8.1 *Reserved*
- 1.2.8.2 *Reserved*
- 1.2.8.3 *Reserved*
- 1.2.8.4 *Reserved*

1.2.9 Language proficiency

- 1.2.9.1 Air traffic controllers shall demonstrate the ability to speak and understand the language used for radiotelephony communications to the level specified in the language proficiency requirements in Appendix 3 of this Manual.
- 1.2.9.2 The language proficiency of air traffic controllers who demonstrate proficiency below the Expert Level (Level 6) shall be formally evaluated at intervals in accordance with an individual's demonstrated proficiency level, as follows:
- (a) those demonstrating language proficiency at the Operational Level (Level 4) should be evaluated at least once every three years; and
 - (b) those demonstrating language proficiency at the Extended Level (Level 5) should be evaluated at least once every six years.

Chapter 2 – AIR TRAFFIC CONTROLLER LICENCE

Section 2.1 – Requirements for the issue of the licence

2.1.1 Requirements for the issue of the licence

2.1.1.1 To be eligible for an air traffic controller licence, a person:

- (a) must be at least 21 years of age;
- (b) must have completed an approved training course; and
- (c) must have demonstrated the required competence, having accomplished not less than three months' satisfactory service engaged in the actual control of air traffic under the supervision of an air traffic control on-the-job training instructor (OTJI), inclusive of the experience requirements specified in paragraph 2.2.2.1 (b);
- (d) must have demonstrated a level of knowledge appropriate to the holder of an air traffic controller licence, in at least the following subject areas:
 - i) Air law: Rules and regulations relevant to the air traffic controller
 - ii) Air traffic control equipment: Principles, use and limitations of equipment used in air traffic control
 - iii) General aircraft knowledge: Principles of flight; principles of operation and functioning of aircraft, powerplants and systems; aircraft performances relevant to air traffic control operations
 - iv) Human performance and limitations: Human performance including principles of threat and error management
 - v) Language: The language nationally designated for use in air traffic control and ability to speak such language without accent or impediment which would adversely affect radio communication
 - vi) Meteorology: Aeronautical meteorology; use and appreciation of meteorological documentation and information; origin and characteristics of weather phenomena affecting flight operations and safety; altimetry

- vii) Navigation: Principles of air navigation; principle, limitation and accuracy of navigation systems and visual aids
 - viii) Operational procedures: Air traffic control, communication, radiotelephony and phraseology procedures (routine, non-routine and emergency); use of the relevant aeronautical documentation; safety practices associated with flight
- (e) must have met the training, experience, and assessment requirements for at least one air traffic controller rating issued under paragraph 2.2.1; and
 - (f) must hold a current Class 3 Medical Assessment.
- 2.1.1.2 An application for the grant, renewal or replacement of a licence shall be made to the DGCA on the relevant published forms.
- 2.1.1.3 The application for a licence with the inclusion of a rating or to add a rating shall be made within six months from the completion of the experience requirements specified in 2.1.1.1 (c).
- 2.1.2 *Reserved***
- 2.1.2.1 *Reserved*
- 2.1.3 Grant, renewal and validity of an air traffic controller licence**
- 2.1.3.1 An air traffic controller licence may be granted or renewed for a period of:
- (a) 48 months from the date the licence is granted or renewed, if the applicant is below 40 years of age on that date;
 - (b) 24 months from the date the licence is granted or renewed, if the applicant is 40 years of age or more but less than 50 years of age on that date; or
 - (c) 12 months from the date the licence is granted or renewed, if the applicant is 50 years of age or more on that date.
- 2.1.3.2 The validity of the air traffic controller licence shall coincide with the validity of the medical certification, unless otherwise stated.
- 2.1.3.3 The maintenance of an air traffic controller licence shall be the responsibility of the licence holder. Each applicant shall meet the requirements set out in paragraph 62A(2) of the Singapore Air Navigation Order, before a grant or renewal of the licence is made.

2.1.4 Replacement of an air traffic controller licence

2.1.4.1 Where an air traffic controller licence has been lost or defaced before its expiry, the holder of the licence may apply to the DGCA for the issue of a replacement air traffic controller licence.

2.1.5 *Reserved*

2.1.5.1 *Reserved*

2.1.5.2 *Reserved*

Section 2.2 – Requirements for Air Traffic Control Ratings

2.2.1 Categories of air traffic controller ratings

2.2.1.1 Air traffic controller ratings shall comprise the following categories:

- (a) Aerodrome control rating (Changi);
- (b) Aerodrome control rating (Seletar);
- (c) Approach control surveillance rating (Arrival) (combined surveillance and procedural);
- (d) Approach control surveillance rating (Terminal) (combined surveillance and procedural);
- (e) Area control procedural rating; and
- (f) Area control surveillance rating.

2.2.2 Requirements for air traffic controller ratings

2.2.2.1 To be eligible for an air traffic controller rating and an initial validation of that rating a person shall:

- (a) have satisfactorily completed a training course relevant to the rating and validation, in the following subject areas:
 - i) Aerodrome control rating: Aerodrome layout; physical characteristics and visual aids; airspace structure; applicable rules, procedures and source of information; air navigation facilities; air traffic control equipment and its use; terrain and prominent landmarks; characteristics of air traffic; weather phenomena; and emergency and search and rescue plans.
 - ii) Approach control surveillance rating: Airspace structure; applicable rules, procedures and source of information; air navigation facilities; air traffic control equipment and its use; terrain and prominent landmarks; characteristics of air traffic and traffic flow; weather phenomena; emergency and search and rescue plans; principles, use and limitations of radar, other surveillance systems and associated equipment; and procedures for the provision of approach radar control service including procedures to ensure appropriate terrain clearance.

- iii) Area control procedural rating: Airspace structure; applicable rules, procedures and source of information; air navigation facilities; air traffic control equipment and its use; terrain and prominent landmarks; characteristics of air traffic and traffic flow; weather phenomena; and emergency and search and rescue plans.
 - iv) Area control surveillance rating: Airspace structure; applicable rules, procedures and source of information; air navigation facilities; air traffic control equipment and its use; terrain and prominent landmarks; characteristics of air traffic and traffic flow; weather phenomena; emergency and search and rescue plans; principles, use and limitations of radar, other surveillance systems and associated equipment; and procedures for the provision of area radar control service including procedures to ensure appropriate terrain clearance.
- (b) have demonstrated the required competence while providing, under the supervision of an air traffic control on-the-job training instructor (OJTI), for a period specified below at the unit for which the rating is sought:
- (i) in the case of an initial aerodrome control rating, an aerodrome control service for a period of at least 90 hours to be completed over at least one month;
 - (ii) in the case of an initial approach control surveillance rating, area control procedural rating or area control surveillance rating, the control service for which the rating is sought, for a period of at least 180 hours to be completed over at least three months;
 - (iii) in the case of an ATCO who already holds an air traffic controller rating in another category, or the same rating for another unit, for a period of:
 - (1) at least one month for an aerodrome rating; and
 - (2) at least three months, for approach control surveillance rating, area control procedural rating and area control surveillance rating.

2.2.2.2 The applicant shall undergo an initial validation assessment conducted by the DGCA where he will demonstrate, at a level appropriate to the privileges to be granted, the skill, judgment and performance required to provide a safe, orderly and expeditious control service.

2.2.3 **Concurrent issuance of two air traffic controller ratings**

2.2.3.1 When two air traffic controller ratings are sought concurrently, the applicable requirements shall not be less than those of the more demanding rating.

2.2.3.2 The approach control surveillance rating shall be a concurrent issuance of the approach control procedural rating and the approach control surveillance rating.

2.2.3.3 The issuance of an approach control surveillance rating shall require the controller to be current in procedural operations. The controller shall maintain currency in approach control procedural operations in a simulated working environment, at least once every 6 months.

2.2.4 ***Reserved***

2.2.4.1 *Reserved*

2.2.4.2 *Reserved*

2.2.4.3 *Reserved*

2.2.5 **Privileges and limitations**

2.2.5.1 Before exercising the privileges indicated in paragraph 2.2.5.2 below, the licence holder shall be familiar with all pertinent and current information.

2.2.5.2 The privileges of the holder of an air traffic controller licence endorsed with one or more of the under-mentioned ratings shall be:

- (a) Aerodrome control rating (Changi): It shall authorise the holder of the air traffic controller licence to provide and supervise the provision of aerodrome control service at Changi Aerodrome;
- (b) Aerodrome control rating (Seletar): It shall authorise the holder of the air traffic controller licence to provide and supervise the provision of aerodrome control service at Seletar Aerodrome;
- (c) Approach control surveillance rating (Arrival): It shall authorise the holder of the air traffic controller licence to provide and supervise the provision of approach control service to arriving aircraft for an approach sequence within the airspace or portion thereof, under his jurisdiction for which the holder is rated;

- (d) Approach control surveillance rating (Terminal): It shall authorise the holder of the air traffic controller licence to provide and supervise the provision of approach control service including flow management to aircraft within the airspace or portion thereof, under his jurisdiction for which the holder is rated;
- (e) Area control procedural rating: It shall authorise the holder of the air traffic controller licence to provide and supervise the provision of area control procedural service;
- (f) Area control surveillance rating: It shall authorise the holder of the air traffic controller licence to provide and supervise the provision of area control surveillance service.

2.2.6 Validity of ratings

2.2.6.1 An air traffic controller rating shall become invalid when an air traffic controller has not exercise the privileges of that rating for a period exceeding six months.

2.2.6.2 An air traffic controller's invalid rating may be revalidated if he passes a re-validation assessment conducted by the DGCA.

2.2.7 *Reserved*

2.2.7.1 *Reserved*

2.2.7.2 *Reserved*

2.2.7.3 *Reserved*

2.2.7.4 *Reserved*

2.2.8 Termination of service

2.2.8.1 The air traffic controller licence shall automatically become invalid when the holder ceases to be employed by the ANSP and the licence shall be returned to the DGCA.

Chapter 3 – MINIMUM EXPERIENCE AND QUALIFICATION REQUIREMENTS FOR ON-THE-JOB TRAINING INSTRUCTORS, AUTHORISED CHECK CONTROLLERS AND SENIOR AUTHORISED CHECK CONTROLLERS

Section 3.1 – On-the-job training instructors, Authorised Check Controllers and Senior Authorised Check Controllers

3.1.1 Responsibility to ensure air traffic controllers continue to meet the licensing requirements

3.1.1.1 ICAO requires air traffic controllers carrying out instruction in an operational environment to be authorised by the State licensing authority. Such controllers shall meet the prescribed requirements by the DGCA before they can be allowed to discharge their responsibilities. The objective is to ensure that trainee air traffic controllers at the operational air traffic control units receive proper on-the-job training under the supervision of suitably qualified air traffic controllers.

3.1.1.2 In addition, air traffic controllers shall demonstrate continued competence in their duties to the desired standards as part of the licensing requirements in order to exercise the privileges of their ratings. This responsibility to ensure air traffic controllers continue to meet the licensing requirements through evaluations and proficiency checks are conducted by Authorised Check Controllers (ACCs) authorised by the DGCA.

3.1.2 Minimum experience and qualification requirements for on-the-job- training instructors, Authorised Check Controllers and Senior Authorised Check Controllers

3.1.2.1 Air traffic controllers carrying out instruction in an operational environment are known as on-the-job training instructors (OJTIs), and air traffic controllers involved in the conduct of evaluations and proficiency checks are known as Authorised Check Controllers (ACCs). An ACC who conducts checks on another ACC's competency for evaluations and proficiency checks are known as Senior Authorised Check Controllers (SACCs). Both ACCs and SACCs shall meet the prescribed minimum experience and qualification requirements before they can be authorised to carry out their respective duties.

3.1.3 On-The-Job Training Instructor (OJTI)

3.1.3.1 ICAO Annex 1, Chapter 4, Paragraph 4.5.3.3 requires the DGCA to authorise an air traffic controller before he can carry out instruction in an operational environment as an OJTI.

3.1.3.2 Essentially, the OJTI is responsible:

- (a) for the safety of the air traffic control service that the trainee air traffic controller is providing under his supervision;
- (b) to ensure that trainee air traffic controllers are competent in the use of new standards, procedures, techniques, facilities and equipment identified as essential to task performance;
- (c) to determine and report on the training progress;
- (d) to identify any deficiencies in knowledge or skill and recommending remedial training;
- (e) to recommend trainee air traffic controllers as being at an appropriate level of competence where they should be successful at a rating or validation assessment;
- (f) to supervise air traffic controllers who have had their rating(s) suspended; and
- (g) to review, monitor and propose changes to the training.

3.1.3.3 An OJTI shall meet the following minimum requirements:

- (a) holds a valid air traffic controller licence with the appropriate valid rating;
- (b) has successfully completed an OJTI training course (see Appendix 6 for recommended course contents); and
- (c) has at least 2 years of operational experience in relation to the rating in which he will instruct.

Note — The two-year period in sub-paragraph (c) above represents an absolute minimum experience level that may need to be significantly extended in certain more complex operational environments.

3.1.3.4 An air traffic controller may carry out instruction in an operational environment only if he satisfies the above-mentioned requirements in paragraph 3.1.3.3.

3.1.4 Authorised Check Controllers

3.1.4.1 The DGCA may authorise air traffic controllers within the ANSP as Authorised Check Controllers. The authorisation is valid up to a period of 2 years, subject to the renewal of authorisation criteria stated in para 3.1.4.3.

3.1.4.2 Authorised Check Controller nominees shall meet the following requirements for authorisation:

- (a) hold an ATC licence;
- (b) have 2 valid ratings with a minimum of 2 years of experience in each rating;
- (c) have at least 2 years of experience as an OJTI or as an instructor in an ATC Training Organisation;
- (d) have successfully completed an ACC Training Programme submitted by the ANSP and approved by the DGCA comprising of at least:
 - i) scope of assessment;
 - ii) practical training on the conduct of pre and post-assessment briefings; and
 - iii) qualifying check by the DGCA or SACC.
- (e) have successfully completed an ACC Induction Training conducted by the DGCA.

3.1.4.3 Authorised Check Controllers shall meet the following requirements prior to the renewal of authorisation:

- (a) continue to hold an ATC licence and 2 valid ratings;
- (b) have conducted at least 12 assessments (Validation Assessment/Re-validation Assessment/Proficiency Check) during the authorisation term, with at least 2 assessments conducted in every 180-day period commencing from the start date of authorisation;
- (c) have successfully completed the ACC Recurrent Training conducted by the DGCA to be updated with current information on the roles and responsibilities; and
- (d) have successfully passed the ACC Surveillance Check conducted either by a SACC or the DGCA, not more than 6 months prior to the expiry date of the ACC authorisation.

- 3.1.4.4 The Authorised Check Controller shall be responsible to conduct an evaluation of the trainee air traffic controllers through a validation or re-validation assessment when the reports by the OJTIs indicate that they are ready. During the conduct of proficiency checks, the Authorised Check Controller is responsible to monitor the air traffic controller's performance and examine any area of his performance that should be improved.
- 3.1.4.5 *Reserved*
- 3.1.4.6 The Authorised Check Controller is authorised to endorse the issuance of subsequent control ratings on the air traffic controller licence, after the latter has:
- (a) successfully completed an approved course of ATC training in that rating;
 - (b) successfully completed OJT at the unit; and
 - (c) successfully completed validation (rating) check.
- 3.1.4.7 Following the evaluation, the Authorised Check Controller shall notify the DGCA of the results of the validation/re-validation assessment as soon as possible. The results and reports of the proficiency checks of air traffic controllers shall be submitted to the DGCA regularly.

3.1.5 Senior Authorised Check Controllers

- 3.1.5.1 The DGCA may authorise ACCs as Senior Authorised Check Controllers. The authorisation is valid up to a period of 2 years, subject to renewal of authorisation criteria as stated in para 3.1.5.3.
- 3.1.5.2 Senior Authorised Check Controller nominees shall meet the following requirements for authorisation:
- (a) hold an ATC licence with valid ratings;
 - (b) have served as an ACC for at least 3 years;
 - (c) have conducted at least 12 checks as an ACC in the preceding 12 months;
 - (d) have successfully completed the SACC Induction Training conducted by the DGCA on the roles, responsibilities and tasks of a SACC; and
 - (e) have successfully completed a qualifying check conducted by the DGCA to assess his suitability to act as a SACC.

3.1.5.3 Senior Authorised Check Controller shall meet the following requirements prior to the renewal of authorisation:

- (a) continue to hold an ATC licence with valid ratings;
- (b) continue to hold an ACC authorisation;
- (c) have conducted at least 4 checks on ACCs during the authorisation period, with at least 1 check conducted in every 180-day period commencing from the date of authorisation to demonstrate currency;
- (d) have successfully completed the SACC Recurrent Training conducted by the DGCA to ensure familiarity with the latest requirements and standards; and
- (e) have successfully passed the SACC Surveillance Check conducted by the DGCA not more than 6 months prior to the expiry date of the SACC authorisation.

3.1.5.4 Senior Authorised Check Controller shall not exercise the privileges of their SACC authorisation if their Authorised Check Controller authorisation is not valid.

Chapter 4 – ATC Medical Assessment

Section 4.1 – Class 3 Medical Assessment

4.1.1 Assessment issue and renewal

- 4.1.1.1 An applicant for an air traffic controller licence shall undergo an initial medical examination for the issue of a Class 3 Medical Assessment.
- 4.1.1.2 The applicant for a medical assessment shall provide the DME with a personally certified statement of the medical facts concerning personal, familial and hereditary history. Applicants for air traffic controller licences or ratings for which medical fitness is prescribed shall state whether they have previously undergone such an examination and, if so, the date, place and result of the last examination. They shall indicate to the DME whether a medical assessment has previously been refused, revoked or suspended and, if so, the reason for such refusal, revocation or suspension.
- 4.1.1.3 The applicant shall be made aware of the necessity for giving a statement that is as complete and accurate as the applicant's knowledge permits. Any false declaration to a DME made by an applicant for a licence or rating shall be reported to the DGCA for such action as may be considered appropriate.
- 4.1.1.4 Holders of air traffic controller licences shall have their Class 3 Medical Assessment renewed at intervals not exceeding those specified in paragraph 2.1.3.1.

Note — In accordance with ICAO Annex 1 on “Personnel Licensing”, Class 3 Medical Assessment applies to applicants for, and holders of air traffic controller licences.

4.1.2 Medical requirements

- 4.1.2.1 The holder of an air traffic controller licence shall not exercise the privileges of that licence unless that person:
- (a) holds a current Class 3 Medical Assessment in accordance with the requirements for medical fitness found in Singapore Air Safety Publication (SASP) Part 9; and
 - (b) complies with all medical endorsements on that medical assessment.

4.1.3 Decrease in medical fitness and reporting procedures

- 4.1.3.1 The holder of an air traffic control licence granted in part on the basis of medical fitness shall not be entitled to perform any of the functions to which his licence relates if he knows or has reason to believe that his physical condition renders him temporarily or permanently unfit to perform such functions. He shall inform the DGCA and the DME / CAMB in writing, as soon as possible, if he:
- (a) knows or has reason to believe that he is unfit or is suffering from any personal injury which affects his capacity to provide any air traffic service specified in any rating in his licence;
 - (b) suffers from any illness which affects his capacity to provide any air traffic service specified in any rating in his licence throughout a period of more than 20 days;
 - (c) knows or has reason to believe that she is pregnant;
 - (d) requires continued treatment with prescribed medication; or
 - (e) has received medical treatment requiring hospitalisation.
- 4.1.3.2 A holder of an air traffic controller licence shall not provide any air traffic service on receipt of information of the circumstances set out in paragraph 4.1.3.1 (a) to (e). If under any doubt, the licence holder shall consult the DME on whether he is fit to provide the air traffic service as specified in his licence.
- 4.1.3.3 To enable the DME to make the assessment on the medical fitness, the licence holder shall submit the medical report from his doctor to the DME as soon as possible. The report shall include the type of medication prescribed if the treatment is continuous or prolonged.
- 4.1.3.4 A holder of an air traffic controller licence shall not provide any air traffic service if he knows or has reason to believe that he is suffering from or is likely to suffer from fatigue which may render him unable to provide the air traffic service in a safe and proper manner.
- 4.1.3.5 A holder of an air traffic controller licence shall not provide any air traffic service if he is under the influence of any psychoactive substance which may render him unable to provide the air traffic service in a safe and proper manner.

APPENDIX 1

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APPENDIX 2

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APPENDIX 3**REQUIREMENTS FOR PROFICIENCY IN
LANGUAGES USED FOR RADIOTELEPHONY COMMUNICATIONS****1. General**

- 1.1 To meet the language proficiency requirements contained in Chapter 1, paragraph 1.1.9.2, an applicant for a licence or a licence holder shall demonstrate, in a manner acceptable to the DGCA, compliance with the holistic descriptors and with the ICAO Operational Level (Level 4) of the ICAO Language Proficiency Rating Scale (see Appendix 3A and 3B).

2. Holistic descriptors

2.1 Proficient speakers shall:

- (a) communicate effectively in voice-only (telephone/radiotelephone) and in face-to-face situations;
- (b) communicate on common, concrete and work-related topics with accuracy and clarity;
- (c) use appropriate communicative strategies to exchange messages and to recognise and resolve misunderstandings (e.g. to check, confirm, or clarify information) in a general or work-related context;
- (d) handle successfully and with relative ease the linguistic challenges presented by a complication or unexpected turn of events that occurs within the context of a routine work situation or communicative task with which they are otherwise familiar; and
- (e) use a dialect or accent which is intelligible to the aeronautical community.

APPENDIX 3A

ICAO LANGUAGE PROFICIENCY RATING SCALE

1.1 Expert, extended and operational levels

<i>LEVEL</i>	<i>PRONUNCIATION</i> <i>Assumes a dialect and/or accent intelligible to the aeronautical community.</i>	<i>STRUCTURE</i> <i>Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task.</i>	<i>VOCABULARY</i>	<i>FLUENCY</i>	<i>COMPREHENSION</i>	<i>INTERACTIONS</i>
Expert 6	Pronunciation, stress, rhythm, and intonation, though possibly influenced by the first language or regional variation, almost never interfere with ease of understanding.	Both basic and complex grammatical structures and sentence patterns are consistently well controlled.	Vocabulary range and accuracy are sufficient to communicate effectively on a wide variety of familiar and unfamiliar topics. Vocabulary is idiomatic, nuanced, and sensitive to register.	Able to speak at length with a natural, effortless flow. Varies speech flow for stylistic effect, e.g. to emphasize a point. Uses appropriate discourse markers and connectors spontaneously.	Comprehension is consistently accurate in nearly all contexts and includes comprehension of linguistic and cultural subtleties.	Interacts with ease in nearly all situations. Is sensitive to verbal and non-verbal cues and responds to them appropriately.
Extended 5	Pronunciation, stress, rhythm, and intonation, though influenced by the first language or regional variation, rarely interfere with ease of understanding.	Basic grammatical structures and sentence patterns are consistently well controlled. Complex structures are attempted but with errors which sometimes interfere with meaning.	Vocabulary range and accuracy are sufficient to communicate effectively on common, concrete, and work-related topics. Paraphrases consistently and successfully. Vocabulary is sometimes idiomatic.	Able to speak at length with relative ease on familiar topics but may not vary speech flow as a stylistic device. Can make use of appropriate discourse markers or connectors.	Comprehension is accurate on common, concrete, and work-related topics and mostly accurate when the speaker is confronted with a linguistic or situational complication or an unexpected turn of events. Is able to comprehend a range of speech varieties (dialect and/or accent) or registers.	Responses are immediate, appropriate, and informative. Manages the speaker/listener relationship effectively.
Operational 4	Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding.	Basic grammatical structures and sentence patterns are used creatively and are usually well controlled. Errors may occur, particularly in unusual or unexpected circumstances, but rarely interfere with meaning.	Vocabulary range and accuracy are usually sufficient to communicate effectively on common, concrete, and work-related topics. Can often paraphrase successfully when lacking vocabulary in unusual or unexpected circumstances.	Produces stretches of language at an appropriate tempo. There may be occasional loss of fluency on transition from rehearsed or formulaic speech to spontaneous interaction, but this does not prevent effective communication. Can make limited use of discourse markers or connectors. Fillers are not distracting.	Comprehension is mostly accurate on common, concrete, and work-related topics when the accent or variety used is sufficiently intelligible for an international community of users. When the speaker is confronted with a linguistic or situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies.	Responses are usually immediate, appropriate, and informative. Initiates and maintains exchanges even when dealing with an unexpected turn of events. Deals adequately with apparent misunderstandings by checking, confirming, or clarifying.
<i>Levels 1, 2 and 3 are on subsequent page.</i>						

APPENDIX 3B

1.2 Pre-operational, elementary and pre-elementary levels

<i>LEVEL</i>	<i>PRONUNCIATION</i> <i>Assumes a dialect and/or accent intelligible to the aeronautical community.</i>	<i>STRUCTURE</i> <i>Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task.</i>	<i>VOCABULARY</i>	<i>FLUENCY</i>	<i>COMPREHENSION</i>	<i>INTERACTIONS</i>
<i>Levels 4, 5 and 6 are on preceding page.</i>						
Pre-operational 3	Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation and frequently interfere with ease of understanding.	Basic grammatical structures and sentence patterns associated with predictable situations are not always well controlled. Errors frequently interfere with meaning.	Vocabulary range and accuracy are often sufficient to communicate on common, concrete, or work-related topics, but range is limited and the word choice often inappropriate. Is often unable to paraphrase successfully when lacking vocabulary.	Produces stretches of language, but phrasing and pausing are often inappropriate. Hesitations or slowness in language processing may prevent effective communication. Fillers are sometimes distracting.	Comprehension is often accurate on common, concrete, and work-related topics when the accent or variety used is sufficiently intelligible for an international community of users. May fail to understand a linguistic or situational complication or an unexpected turn of events.	Responses are sometimes immediate, appropriate, and informative. Can initiate and maintain exchanges with reasonable ease on familiar topics and in predictable situations. Generally inadequate when dealing with an unexpected turn of events.
Elementary 2	Pronunciation, stress, rhythm, and intonation are heavily influenced by the first language or regional variation and usually interfere with ease of understanding.	Shows only limited control of a few simple memorized grammatical structures and sentence patterns.	Limited vocabulary range consisting only of isolated words and memorized phrases.	Can produce very short, isolated, memorized utterances with frequent pausing and a distracting use of fillers to search for expressions and to articulate less familiar words.	Comprehension is limited to isolated, memorized phrases when they are carefully and slowly articulated.	Response time is slow and often inappropriate. Interaction is limited to simple routine exchanges.
Pre-elementary 1	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.

Note.— The Operational Level (Level 4) is the minimum required proficiency level for radiotelephony communication. Levels 1 through 3 describe Pre-elementary, Elementary, and Pre-operational levels of language proficiency, respectively, all of which describe a level of proficiency below the ICAO language proficiency requirement. Levels 5 and 6 describe Extended and Expert levels, at levels of proficiency more advanced than the minimum required Standard. As a whole, the scale will serve as benchmarks for training and testing, and in assisting candidates to attain the ICAO Operational Level (Level 4).

APPENDIX 4

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APPENDIX 5

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APPENDIX 6**RECOMMENDED SYLLABUS FOR
ON-THE-JOB TRAINING INSTRUCTOR COURSE**

For the OJTI course to be adequate, it should include the following broad areas:

1 TRAINING ORGANISATION

- (a) Content and Training Objectives for ATCOs and Unit Training
- (b) Unit Training Plan
- (c) Unit Training Structure
- (d) Regulation

2 HUMAN FACTORS

- (a) Teaching and learning
- (b) Teams and Interactions within Teams
- (c) Communication
- (d) On-the-Job-Training Instructor (OJTI) - Professional and Personal Profile
- (e) Stress

3 TRAINING TECHNIQUES

- (a) Briefing
- (b) Demonstration
- (c) Talk Through
- (d) Monitoring
- (e) Debriefing

4 ASSESSMENT METHODS AND REPORT WRITING

- (a) Assessment
- (b) Report Writing