MANUAL OF STANDARDS
(170 – AIR NAVIGATION SERVICES PROVIDER) 2024

REVISION 1
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In exercise of the power conferred by paragraph 5(2) of the Civil Aviation Authority of Singapore (Air Navigation Services) Directions 2010 (Ministerial Direction No. 1/2010), the Civil Aviation Authority of Singapore ("the Authority") issues the following Manual of Standards.

PART 1

PRELIMINARY

Citation and commencement

1. This Manual is the Manual of Standards (170 – Air Navigation Services Provider) 2024 and comes into operation on 15 April 2024.

Definitions

2. In this Manual, unless the context otherwise requires, any term defined in the First Schedule has the meaning given to that term in that Schedule.

Application of this Manual

3. This Manual applies to the provider of air navigation services within the Singapore Flight Information Region and such other area as the Minister for Transport may authorise (called in this Manual the Air Navigation Services Provider or "ANSP").

PART 2

Division 1 — Personnel Requirements

Key personnel

4. The Director-General of Civil Aviation ("DGCA") must appoint from employees or officers of the Authority a person with the appropriate level of seniority to be responsible to the DGCA for —

(a) the planning and operations of all activities of the ANSP in accordance with —

(i) Part II of the Ministerial Direction No. 1/2010;

(ii) this Manual;

(iii) the Manual of Standards (171 – Aeronautical Telecommunications) 2024;

(iv) the Manual of Standards (172 – Air Traffic Services) 2024;

(v) the Manual of Standards (173 – Instrument Flight Procedure Design) 2024;

(vi) the Manual of Standards (175 – Aeronautical Information Services) 2024; and

(vii) the Manual of Standards (176 – Search and Rescue) 2024; and

(b) the establishment and maintenance of a safety management system as described in Division 2 of this Part.

Other key personnel

5.— (1) The DGCA must appoint employees or officers of the Authority to be responsible to the person appointed under paragraph 4, for the following functions —

(a) the provision of air traffic services;

(b) the provision of aeronautical telecommunications;

(c) the provision of aeronautical information services;

(d) the design of instrument flight procedures;

(e) the provision of search and rescue services; and

(f) supervision of the safety management system as described in Division 2 of this Part.

(2) Except as provided in sub-paragraph (3), each person mentioned in sub-paragraph (1) must be responsible for only one of the functions stated in sub-paragraphs (1)(a) to (f).

(3) A person mentioned in sub-paragraph (1) may be concurrently responsible for those functions stated in sub-paragraphs (1)(a) to (e) if the DGCA permits the person to have concurrent responsibilities as a consequence of the size and scope of the ANSP.

Division 2 — Safety Management System

Safety management system

6.— (1) The ANSP must establish and maintain a safety management system —

(a) that consists of all the components and elements set out in the Second Schedule; and

(b) that is commensurate with the size and the complexity of the ANSP's operations.

(2) The ANSP must describe its safety management system in a safety management system manual.

(3) The ANSP must obtain the acceptance of the ANS Regulator for —

(a) the safety management system mentioned in sub-paragraph (1); and

(b) any change to its safety management system before making that change.

(4) The ANSP must make amendments or additions to the safety management system manual as the ANS Regulator may require for ensuring:

(a) the accuracy of the safety management system manual; and

(b) the safety, efficiency or regularity of air navigation.

Effectiveness of the ANSP’s safety management system

7.— (1) The ANSP must assess and validate the effectiveness of its safety management system.

(2) The ANSP must submit a report on its safety performance to the ANS Regulator within such period as agreed with the ANS regulator.

Implementation of changes

8.— (1) The ANSP must not make any or all of the following changes except in accordance with sub-paragraph (2) —

(a) the addition, relocation, removal (whether temporary or permanent) or restoration to service of an aeronautical facility;

(b) any change to any system functionality or capability in the provision of aeronautical telecommunications, which leads to an operational change in the provision of that service;

(c) any change that may affect any manual or programme that the ANSP is required to maintain under this Manual or any Manual of Standards mentioned in paragraph 4(a);

(d) any change required in the training of personnel arising from a change mentioned in subparagraph (3)(c); or

(e) any change to its organisational structure that may have impact on its provision of air navigation services.

(2) The ANSP must, before making any change mentioned in sub-paragraph (1) —

(a) notify the ANS Regulator as early as practicable of the proposed change; and

(b) submit a safety risk assessment, which must include consultation with stakeholders, to the ANS Regulator at least 14 days prior to making the change.

[Revision 1, effective 26 Nov 2026]

(2A) The ANSP must conduct post-implementation monitoring of the changes mentioned in sub-paragraph (1) to verify that the level of safety defined by the ANSP continues to be met.

[Revision 1, effective 26 Nov 2026]

(3) The ANSP must not carry out any of the following activities except in accordance with sub-paragraph (4) —

(a) operationalising a major aeronautical facility or infrastructure (for example, a new air traffic control centre, new air traffic control tower or a new runway);

(b) operationalising any new technology as part of its provision of air navigation services;

(c) operationalising any new procedure or CNS/ATM system that may have a safety-critical impact on the provision of ANS (for example, ILS, RNP AR approaches);

(d) re-design of shift system for air traffic controllers; or

(e) making any change in the organisation, procedures or systems relating to the issuance of air traffic controller ratings.

(4) The ANSP must, before undertaking any activity mentioned in sub-paragraph (3) —

(a) notify the ANS Regulator as early as practicable of the proposed activity;

(b) conduct a safety case for the proposed activity, which must include consultation with stakeholders; and

[Revision 1, effective 26 Nov 2026]

(c) submit the safety case for the ANS Regulator’s acceptance at least one month prior to carrying out the proposed activity.

(4A) The ANSP must conduct post-implementation monitoring of the activities mentioned in sub-paragraph (3) to verify that the level of safety defined by the ANSP continues to be met.

[Revision 1, effective 26 Nov 2026]

(5) The ANSP must seek the approval of the ANS Regulator for any waiver to the requirements in sub-paragraph (4).

Control of safety management system manual and related documentation

9.— (1) The ANSP must develop and apply appropriate policies and procedures to control, amend and distribute documentation necessary for the planning, operation and maintenance of its safety management system.

(2) The procedures established in accordance with sub-paragraph (1) must require —

(a) that all safety management system procedures and related documentation are reviewed and approved by the key personnel appointed under paragraph 4, before issuance or amendment;

(b) that the current version of the safety management system manual and related documentation are up-to-date and made readily available to its personnel;

(c) that the current version of each document is identifiable such that the use of obsolete documentation is precluded; and

(d) that all obsolete documentation are clearly marked and promptly removed from circulation.

Division 3 — Exposition Manual

Exposition manual

10.— (1) The ANSP must establish and maintain an exposition manual which describes —

(a) the scope of air navigation services provided by the ANSP;

(b) the title, name and responsibilities of the key personnel appointed under paragraph 4;

(c) the title, name and responsibilities of each of the other key personnel appointed under paragraph 5;

(d) the ANSP's organisation chart showing the lines of reporting of the other key personnel appointed under paragraph 5 to the key personnel appointed under paragraph 4;

(e) the facilities utilised by the ANSP in its provision of air navigation services, and the function of each facility;

(f) information on the maintenance arrangements for its facilities;

(g) details of the ANSP's resources and procedures to ensure compliance with —

(i) this Manual;

(ii) the Manual of Standards (171 – Aeronautical Telecommunications) 2024;

(iii) the Manual of Standards (172 – Air Traffic Services) 2024;

(iv) the Manual of Standards (173 – Instrument Flight Procedure Design) 2024;

(v) the Manual of Standards (175 – Aeronautical Information Services) 2024;

(vi) the Manual of Standards (176 – Search and Rescue) 2024;

(vii) the ANSP's procedures established under paragraph 11 to control, amend and distribute the exposition manual, including the distribution of the initial copy and all subsequent amendments made to the exposition manual.

(2) The ANSP must obtain the acceptance of the ANS Regulator for the exposition manual established under sub-paragraph (1) or any change or amendment to the exposition manual before making that change or amendment.

Control of exposition manual

11.— (1) The ANSP must develop and apply appropriate policies and procedures to control, amend, and distribute the exposition manual established under paragraph 10.

(2) The procedures established in accordance with sub-paragraph (1) must require —

(a) that the exposition manual be reviewed and approved by the key personnel appointed under paragraph 4, before issuance or amendment;

(b) that the current version of the exposition manual is up-to-date and made readily available to its personnel and the ANS Regulator;

(c) that the current version of the exposition manual be identifiable such that the use of obsolete versions is precluded; and

(d) that all obsolete versions are clearly marked and promptly removed from circulation.

FIRST SCHEDULE – DEFINITIONS

Paragraph 2

"ANS Regulator" means the Division that is charged with discharging and that carries out the function of exercising safety regulatory oversight of the provision of air navigation services as mentioned in paragraphs 3(2) and 4(1) of the Ministerial Direction No. 1/2010.

"Aeronautical facility" means the system (such as instrument landing system, surveillance radar system, VHF communications system), equipment and ancillary services and amenities, housed in a building or structure (such as an air traffic control tower), operated for the purpose of providing any air navigation service.

"Aeronautical telecommunications" means a communication, navigation, surveillance or any air traffic management-related service established for the safety of air navigation.

"Air traffic service" has the meaning given by section 2 of the Air Navigation Act 1966.

"Aeronautical information service" means a service established by the ANSP for the provision of aeronautical data and aeronautical information necessary for the safety, regularity and efficiency of air navigation within the area for which the ANSP is responsible to provide air navigation services and, where appropriate, includes the personnel and facilities employed to provide information pertaining to the availability of air navigation services and their associated procedures necessary for the safety, regularity and efficiency of air navigation.

"Chicago Convention" means the Convention on International Civil Aviation concluded in Chicago on 7 December 1944 (as in force and amended from time to time).

"Facility" means any system, equipment, building or service that supports the provision of any air navigation service.

"Instrument flight procedure" means a procedure used by aircraft flying in accordance with the instrument flight rules which is designed to achieve and maintain an acceptable level of safety in operations and includes an instrument approach procedure, a standard instrument departure, a planned departure route and a standard instrument arrival.

"Instrument Flight Rules" means Instrument Flight Rules contained in Chapter 5 of Annex 2 to the Chicago Convention.

"Safety case" means the documented assurance, including argument and supporting evidence, of the achievement and maintenance of safety.

"Search and rescue service" means the performance of distress monitoring, communication, coordination and search and rescue functions, initial medical assistance or medical evacuation, through the use of public and private resources, including cooperating aircraft, vessels and other craft and installations.

SECOND SCHEDULE – SAFETY MANAGEMENT SYSTEM

Paragraph 6

1. The safety management system (called in this paragraph the SMS) required under paragraph 6 must comprise the following components and elements:

First column	*Second column*
Components	*Elements*
1. Safety policy and objectives	(*a*) Management commitment (*b*) Safety accountability and responsibilities (*c*) Appointment of key safety personnel (*d*) Coordination of emergency response planning (*e*) SMS documentation
2. Safety risk management	(*a*) Hazard identification (*b*) Safety risk assessment and mitigation
3. Safety assurance	(*a*) Safety performance monitoring and measurement (*b*) The management of change (*c*) Continuous improvement of the SMS
4. Safety promotion	(*a*) Training and education (*b*) Safety communication

REVISION HISTORY

This Amendment History is provided for the convenience of users of the Manual of Standards (170 – Air Navigation Services Provider) 2024. It is not part of this Manual.

1. Initial Issue, effective 15 April 2024
2. Revision 1, effective 26 November 2026