

## GEN 3.2 AERONAUTICAL CHARTS

### 3.2.1 Responsible Services

1.1 The Civil Aviation Authority of Singapore publishes a range of aeronautical charts for use by all types of civil aviation. The Aeronautical Information Services produces some of these charts which are part of the AIP. The charts published in the AIP are produced in accordance with the provisions contained in the ICAO documents listed in para 1.2. Differences to the provisions contained in ICAO Annex 4 - Aeronautical Charts are detailed in subsection [GEN 1.7](#)

#### 1.2 Applicable ICAO Documents

Annex 4	-	Aeronautical Charts, Eleventh Edition 2009.
Doc 8168-OPS/611	-	Aircraft Operations, Volume II - Construction of Visual and Instrument Flight Procedures, Fifth Edition 2006.

### 3.2.1 MAINTENANCE OF CHARTS

1.1 Aeronautical charts published in the AIP are updated regularly. Significant changes or revisions in aeronautical information for other aeronautical charts are also included in the amendment.

1.2 Information found to be incorrect after publication will be corrected by an AIC or NOTAM if they are of operational significance.

### 1.2.1 PURCHASE ARRANGEMENTS

1.2.1.1 The charts listed in paragraph 4.1 can be accessed freely via AIM-SG URL: <https://aim-sg.caas.gov.sg>

### 1.2.2 AERONAUTICAL CHART SERIES AVAILABLE

#### 3.2.2.1 The following series of aeronautical charts are produced:

- a) World Aeronautical Chart - ICAO;
- b) Aerodrome Chart - ICAO;
- c) Aerodrome Obstacle Chart - ICAO Type A (for each runway);
- d) Aerodrome Obstacle Chart - ICAO Type B;
- e) Precision Approach Terrain Chart - ICAO
- f) Enroute Chart - ICAO;
- g) Area Chart - ICAO;
- h) Standard Departure Chart - Instrument (SID) - ICAO;
- i) Standard Arrival Chart - Instrument (STAR) - ICAO;
- j) Instrument Approach Chart - ICAO (for each runway and procedure type);
- k) Visual Approach Chart - ICAO

#### 3.2.2.2 General description of each series

##### a) World Aeronautical Chart - ICAO 1: 1 000 000

This series is constructed on Lambert Conformal Conic Projection with two standard parallels at 0 deg 40 min and 3 deg 20 min. This spheroid is World Geodetic System 1984 (WGS84). The aeronautical data shown have been kept to a minimum, consistent with the use of the chart for visual air navigation. It includes a selection of aerodromes, significant obstacles, elements of the ATS system, prohibited, restricted and danger areas, and radio navigation aids. The chart provides information to satisfy visual air navigation and is also used as a pre-flight planning chart.

##### b) Aerodrome Chart - ICAO

This chart contains detailed aerodrome data to provide flight crews with information that will facilitate the ground movement of aircraft:

- from the aircraft stand to the runway; and
- from the runway to the aircraft stand;

It also provides essential operational information at Singapore Changi Airport and Seletar Aerodrome.

##### c) Aerodrome Obstacle Chart - ICAO Type A (operating limitations)

This chart contains detailed information on obstacles in the take-off flight path areas of Singapore Changi Airport, Seletar Aerodrome and Paya Lebar Airport. It is shown in plan and profile view. This obstacle information provides the data necessary to enable an operator to comply with the operating limitations of ICAO Annex 6, Parts I and II, Chapter 5.

**d) Aerodrome Obstacle Chart - ICAO Type B**

This chart is produced to assist in the determination of critical heights for Singapore Changi Airport and Seletar Aerodrome.

**e) Precision Approach Terrain Chart - ICAO**

This chart provides detailed terrain profile information within a defined portion of the final approach so as to enable aircraft operating agencies to assess the effects of the terrain on decision height determination by the use of radio altimeters. This chart is produced for the precision approach Cat II runways at Singapore Changi Airport.

**f) Enroute Chart - ICAO**

This chart is produced for the entire Singapore FIR. The aeronautical data include all aerodromes, prohibited, restricted and danger areas and the air traffic services system in detail. This chart provides the flight crew with information to facilitate navigation along ATS routes in compliance with air traffic services procedures.

**g) Area Chart - ICAO**

This chart is produced when the air traffic services routes or position reporting requirements are complex and cannot be shown on the En-route Chart - ICAO. It shows, in more detail, those aerodromes that affect terminal routings, prohibited, restricted and danger areas and the air traffic services system. This chart provides the flight crew with information to facilitate the various phases of instrument flight:

- the transition between the en-route phase and the approach to an aerodrome;
- the transition between the take-off/missed approach and the en-route phase of flight; and
- flights through areas of complex ATS routes or airspace structure.

**h) Standard Departure Chart - Instrument (SID) - ICAO**

This chart is produced whenever a standard departure route - instrument has been established and cannot be shown with sufficient clarity on the Area Chart - ICAO.

The aeronautical data shown include the aerodrome of departure, aerodrome(s) which affect the designated standard departure route-instrument, prohibited, restricted and danger areas and the air traffic services system. This chart provides the flight crew with information that will enable them to comply with the designated standard departure route-instrument from the take-off phase to the en-route phase.

**i) Standard Arrival Chart - Instrument (STAR) - ICAO**

This chart is produced whenever a standard arrival route - instrument has been established and cannot be shown with sufficient clarity on the Area Chart - ICAO.

The aeronautical data shown include the aerodrome of landing, aerodrome(s) which affect the designated standard arrival route-instrument, prohibited, restricted and danger areas and the air traffic services system. This chart provides the flight crew with information that will enable them to comply with the designated arrival route-instrument from the en-route phase to the approach phase.

**j) Instrument Approach Chart - ICAO**

This chart is produced for all aerodromes used by civil aviation where instrument approach procedures have been established. A separate Instrument Approach Chart - ICAO has been provided for each approach procedure.

The aeronautical data shown include information on aerodromes, prohibited, restricted and danger areas, radio communication facilities and navigation aids, minimum sector altitude, procedure track portrayed in plan and profile view, aerodrome operating minima, etc.

This chart provides the flight crew with information that will enable them to perform an approved instrument approach procedure to the runway of intended landing including the missed approach procedure and where applicable, associated holding patterns.

**k) Visual Approach Chart - ICAO**

This chart is produced for aerodromes used by civil aviation where:

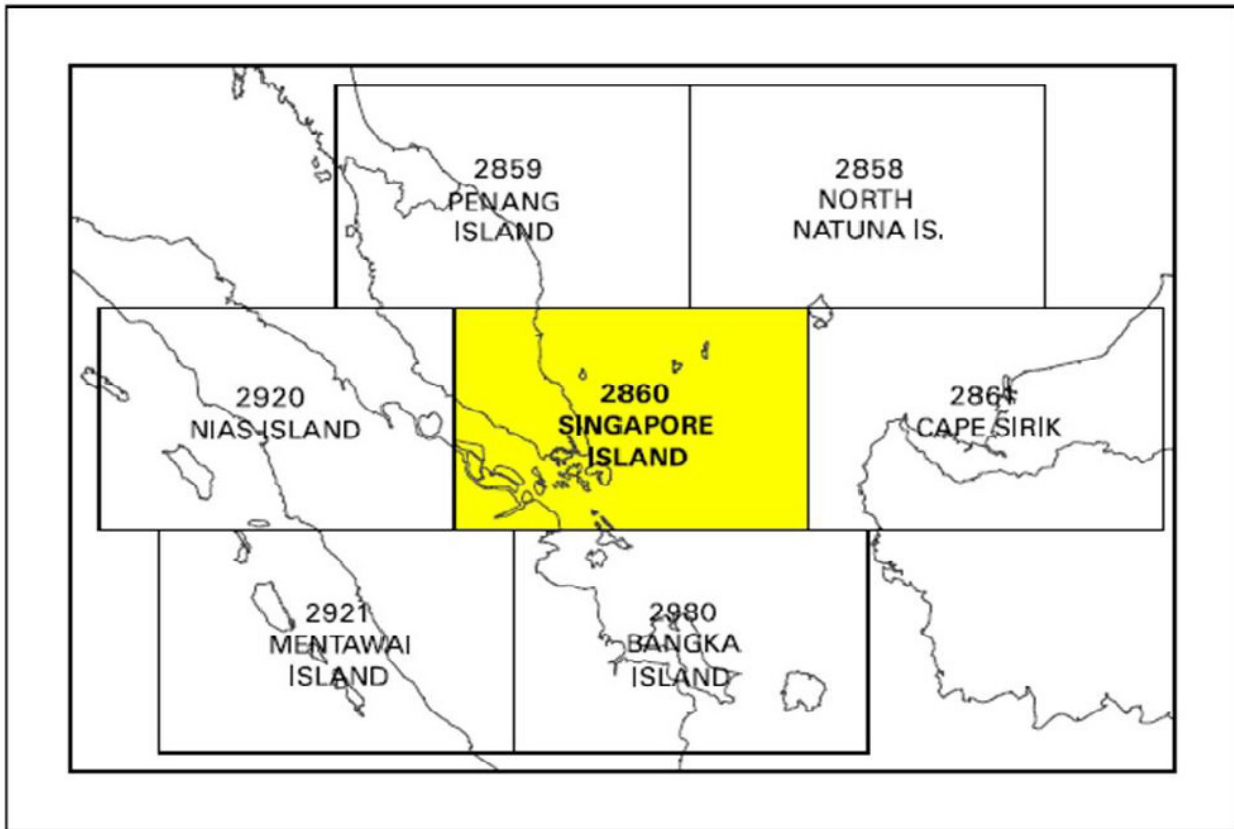
- only limited navigation facilities are available; or
- radio communication facilities are not available; or
- no adequate aeronautical charts of the aerodrome and its surroundings at 1:500 000 or greater scale are available; or
- visual approach procedures have been established

The aeronautical data shown include information on aerodromes obstacles, designated airspace, visual approach information, radio navigation aids and communication facilities, as appropriate.

## 3.2.3 LIST OF AERONAUTICAL CHARTS AVAILABLE

GEN 3.2.5 LIST OF AERONAUTICAL CHARTS AVAILABLE					
Title of Chart Series	Scale	Name and/or number		Price (\$)	Date
<b>World Aeronautical Chart</b> ICAO (WAC)	1:1 000 000		WAC 2860	In AIP	21 MAR 24
<b>Enroute Chart</b> ICAO (ENRC)			ERC 6-1	In AIP	05 SEP 24
<b>Instrument Approach Chart</b> ICAO (IAC)	1:400 000	<b>Singapore Changi</b> RWY 02L - ICW ILS/DME	AD-2-WSSS-IAC-1	In AIP	20 FEB 25
	1:400 000	RWY 02C - ICE ILS/DME	AD-2-WSSS-IAC-2	In AIP	20 FEB 25
	1:400 000	RWY 02R - ICX ILS/DME	AD-2-WSSS-IAC-3	In AIP	20 FEB 25
	1:400 000	RWY 20R - ICH ILS/DME	AD-2-WSSS-IAC-5	In AIP	20 FEB 25
	1:400 000	RWY 20C - ICC ILS/DME	AD-2-WSSS-IAC-6	In AIP	20 FEB 25
	1:400 000	RWY 20C - VTK DVOR/DME	AD-2-WSSS-IAC-7	In AIP	20 FEB 25
	1:400 000	RWY 02L - RNP	AD-2-WSSS-IAC-9	In AIP	20 FEB 25
	1:400 000	RWY 02C - RNP	AD-2-WSSS-IAC-10	In AIP	20 FEB 25
	1:400 000	RWY 20R - RNP	AD-2-WSSS-IAC-11	In AIP	20 FEB 25
	1:400 000	RWY 20C - RNP	AD-2-WSSS-IAC-12	In AIP	20 FEB 25
	1:400 000	RWY 02R - RNP	AD-2-WSSS-IAC-13	In AIP	20 FEB 25
	1:400 000	RWY 20L - RNP	AD-2-WSSS-IAC-14	In AIP	31 OCT 24
	1:400 000	<b>Paya Lebar</b> RWY 20 - PU DVOR/DME	In AIP	In AIP	20 FEB 25
	1:400 000	RWY 02 - PU DVOR/DME	In AIP	In AIP	20 FEB 25
1:400 000	RWY 20 - IPS ILS/DME	In AIP	In AIP	20 FEB 25	
1:400 000	RWY 02 - IPN ILS/DME	In AIP	In AIP	20 FEB 25	
1:400 000	RWY 02 - RNP	In AIP	In AIP	20 FEB 25	
1:400 000	RWY 20 - RNP	In AIP	In AIP	20 FEB 25	
<b>Visual Approach Chart</b> ICAO (VAC)	1:400 000	<b>Singapore Changi</b>	AD-2-WSSS-VAC-1	In AIP	20 FEB 25
	1:100 000	<b>Seletar</b> RWY 03	AD-2-WSSL-VAC-1	In AIP	05 SEP 24
	1:100 000	RWY 21	AD-2-WSSL-VAC-2	In AIP	05 SEP 24
	1:100 000	RWY 03	AD-2-WSSL-VAC-3	In AIP	05 SEP 24
	1:100 000	RWY 21	AD-2-WSSL-VAC-4	In AIP	05 SEP 24
<b>Visual Departure Chart</b>	1:100 000	<b>Seletar</b> RWY 03	AD-2-WSSL-VDC-1	In AIP	20 FEB 25
	1:100 000	RWY 21	AD-2-WSSL-VDC-2	In AIP	20 FEB 25
<b>Aerodrome Chart</b> ICAO (AC)		<b>Singapore Changi</b>	AD-2-WSSS-ADC-2	In AIP	12 JUN 25
		<b>Seletar</b>	AD-2-WSSL-ADC-1	In AIP	26 DEC 24
		<b>Paya Lebar</b>	AD-2-WSAP-ADC-1	In AIP	16 JUL 20
<b>Aerodrome Obstacle Chart</b> ICAO Type A (AOC)	1:10 000	<b>Singapore Changi</b> RWY 20R/02L	AD-2-WSSS-AOC-1	In AIP	12 JUN 25
	1:10 000	RWY 20C/02C	AD-2-WSSS-AOC-2	In AIP	05 SEP 24
	1:10 000	RWY 02R/20L	AD-2-WSSS-AOC-4	In AIP	08 SEP 22
	1:10 000	<b>Seletar</b> RWY 03/21	AD-2-WSSL-AOC-1	In AIP	16 JUL 20
	1:20 000	<b>Paya Lebar</b> RWY 20/02	AD-2-WSAP-AOC-1	In AIP	24 MAR 22
<b>Aerodrome Obstacle Chart</b> ICAO Type B (AOC)	1:20 000	<b>Singapore Changi</b> RWY 02L/20R, 02C/20C and RWY 02R/20L	AD-2-WSSS-AOC-3	In AIP	12 JUN 25
	1:20 000	<b>Seletar</b> RWY 03/21	AD-2-WSSL-AOC-2	In AIP	16 JUL 20
<b>Precision Approach Terrain Chart</b> ICAO (PATC)	1:2 500	<b>Singapore Changi</b> RWY 02L	AD-2-WSSS-PATC-1	In AIP	10 OCT 19
	1:2 500	RWY 20C	AD-2-WSSS-PATC-2	In AIP	11 JUL 24
	1:2 500	RWY 02R	AD-2-WSSS-PATC-3	In AIP	31 OCT 24
	1:2 500	RWY 20L	AD-2-WSSS-PATC-4	In AIP	31 OCT 24
	1:2 500	RWY 02C	AD-2-WSSS-PATC-5	In AIP	11 JUL 24

**3.2.4 INDEX TO THE WORLD AERONAUTICAL CHART (WAC) - ICAO 1:1 000 000**



**3.2.5 TOPOGRAPHICAL CHARTS**

NIL

**3.2.6 CORRECTIONS TO CHARTS NOT CONTAINED IN THE AIP**

Identification of charts	Location on the chart where the correction has to be made	Precise details of the corrections to be made
NIL	NIL	NIL