Contact

Post:
AERONAUTICAL
INFORMATION SERVICES
Civil Aviation Authority of
Singapore,
Singapore Changi Airport,
P. O. Box 1
Singapore 918141
Tel: (65) 64227036
Fax: (65) 64410221
Email: caas_singaporeais@caas.gov.sg

eAIP

AMDT
03/2022
Effective date
19 MAY 2022
Publication date
19 MAY 2022

wp-AMDT-2022-03

1. Significant information and changes

NIL

2. This amendment incorporates information contained in the listed AIP Supplement and NOTAM which are hereby superseded:

AIP Supplement
055/2022 dated 10/03/2022

NOTAM
A1866/22 dated 07/04/2022

Amended Pages

GEN-0.1-3: *: replace.*
GEN 0.2-1/2: *: replace.*
GEN 0.3-1/2: *: replace.*
GEN 0.3-3/4: *: replace.*
GEN 0.3-5: *: replace.*
GEN 0.4-1/2: *: replace.*
GEN 0.4-3: *: replace.*
GEN 0.6-1/2: *: replace.*
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GEN 1.2-3/4: *: replace.*
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GEN 3.1-1/2: *: replace.*
GEN 3.1-3/4: *: replace.*
GEN 3.2-1/2: *: replace.*
GEN 3.2-3/4: *: replace.*
GEN 3.2-5/6: *: replace.*
GEN 3.3-1/2: *: replace.*
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GEN 3.4-3/4: *: replace.*
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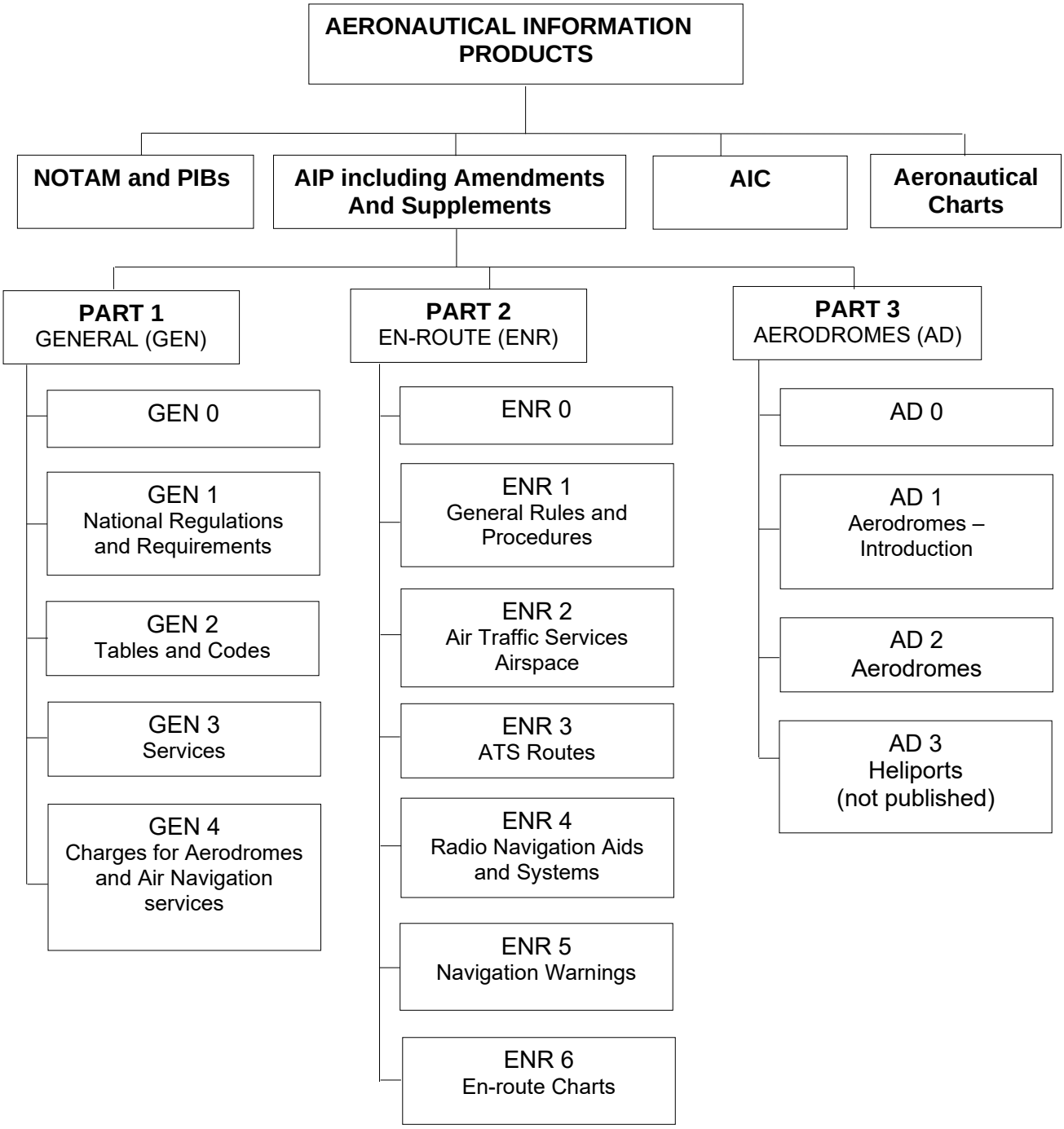
GEN 3.5-5/6: *: replace.*
GEN 3.5-7/8: *: replace.*
GEN 3.5-9: *: replace.*
GEN 3.6-1/2: *: replace.*
ENR 1.6-1/2: *: replace.*
ENR-2.1-15: *: replace.*
ERC-6-1 En-Route Chart: *: replace.*
WAC-2860-Singapore-Island: *: replace.*

AD-2-WSSS-ADC-2: *: replace.*

GEN 0.1 PREFACE



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GEN 0.2 RECORD OF AIP AMENDMENTS

AIP AMENDMENT

NR/Year	*Publication date*	*Date inserted*	*Inserted by*
5/2014	18 SEP 2014	18 SEP 2014	
6/2014	13 NOV 2014	13 NOV 2014	
1/2015	08 JAN 2015	08 JAN 2015	
2/2015	05 MAR 2015	05 MAR 2015	
3/2015	30 APR 2015	30 APR 2015	
4/2015	25 JUN 2015	25 JUN 2015	
5/2015	20 AUG 2015	20 AUG 2015	
6/2015	15 OCT 2015	15 OCT 2015	
07/2015	10 DEC 2015	10 DEC 2015	
01/2016	04 FEB 2016	04 FEB 2016	
02/2016	31 MAR 2016	31 MAR 2016	
03/2016	26 MAY 2016	26 MAY 2016	
04/2016	21 JUL 2016	21 JUL 2016	
05/2016	15 SEP 2016	15 SEP 2016	
06/2016	10 NOV 2016	10 NOV 2016	
01/2017	05 JAN 2017	05 JAN 2017	
02/2017	02 MAR 2017	02 MAR 2017	
03/2017	27 APR 2017	27 APR 2017	
04/2017	22 JUN 2017	22 JUN 2017	
05/2017	17 AUG 2017	17 AUG 2017	
06/2017	12 OCT 2017	12 OCT 2017	
07/2017	07 DEC 2017	07 DEC 2017	
01/2018	01 FEB 2018	01 FEB 2018	
02/2018	29 MAR 2018	29 MAR 2018	
03/2018	24 MAY 2018	24 MAY 2018	
04/2018	19 JUL 2018	19 JUL 2018	
05/2018	13 SEP 2018	13 SEP 2018	

AIP AMENDMENT

NR/Year	*Publication date*	*Date inserted*	*Inserted by*
06/2018	08 NOV 2018	08 NOV 2018	
01/2019	03 JAN 2019	03 JAN 2019	
02/2019	28 FEB 2019	28 FEB 2019	
03/2019	25 APR 2019	25 APR 2019	
04/2019	20 JUN 2019	20 JUN 2019	
05/2019	15 AUG 2019	15 AUG 2019	
06/2019	10 OCT 2019	10 OCT 2019	
07/2019	05 DEC 2019	05 DEC 2019	
01/2020	30 JAN 2020	30 JAN 2020	
02/2020	26 MAR 2020	26 MAR 2020	
03/2020	21 MAY 2020	21 MAY 2020	
04/2020	16 JUL 2020	16 JUL 2020	
05/2020	10 SEP 2020	10 SEP 2020	
06/2020	05 NOV 2020	05 NOV 2020	
07/2020	31 DEC 2020	31 DEC 2020	
01/2021	25 FEB 2021	25 FEB 2021	
02/2021	22 APR 2021	22 APR 2021	
03/2021	17 JUN 2021	17 JUN 2021	
04/2021	12 AUG 2021	12 AUG 2021	
05/2021	07 OCT 2021	07 OCT 2021	
06/2021	02 DEC 2021	02 DEC 2021	
01/2022	27 JAN 2022	27 JAN 2022	
02/2022	24 MAR 2022	24 MAR 2022	
03/2022	19 MAY 2022	19 MAY 2022	

GEN 0.3 RECORD OF CURRENT AIP SUPPLEMENTS

NR/Year	*Subject*	*AIP section(s) affected*	*Period of validity (from/to)*	*Cancellation record*
021/2018	Paya Lebar Airport - Luffer Crane and Saddle Cranes	AD	*06 APR 2018 / 31 DEC 2022*	
028/2018	Paya Lebar Airport - Saddle Cranes	AD	*20 JUN 2018 / 31 DEC 2022*	
071/2018	Paya Lebar Airport - Saddle Cranes	AD	*13 NOV 2018 / 31 DEC 2023*	
078/2018	Paya Lebar Airport - Luffer Cranes	AD	*28 NOV 2018 / 30 DEC 2022*	
033/2019	Paya Lebar Airport - Luffer Crane	AD	*27 MAR 2019 / 31 DEC 2022*	
034/2019	Paya Lebar Airport - Saddle Cranes	AD	*27 MAR 2019 / 31 DEC 2022*	
035/2019	Paya Lebar Airport - Luffer Crane	AD	*27 MAR 2019 / 31 DEC 2022*	
053/2019	Paya Lebar Airport - Saddle Cranes and Luffer Crane	AD	*07 MAY 2019 / 31 DEC 2023*	
126/2019	Paya Lebar Airport - Luffer Cranes	AD	*12 NOV 2019 / 31 DEC 2022*	
021/2020	Singapore Changi Airport - Long term closure of aircraft stand E5 at Terminal 2, Singapore Changi Airport	AD	*30 MAR 2020 / 30 DEC 2024*	
059/2020	Singapore Changi Airport - Long term closure of aircraft stand E20 at Terminal 2, Singapore Changi Airport	AD	*25 AUG 2020 / 30 DEC 2026*	
050/2021	Paya Lebar Airport - Mobile Cranes	AD	*08 APR 2021 / 21 JUN 2022*	
066/2021	Paya Lebar Airport - Topless Cranes	AD	*19 MAY 2021 / 25 MAY 2022*	
076/2021	Paya Lebar Airport - Cranes	AD	*24 JUN 2021 / 11 JUN 2022*	
077/2021	Paya Lebar Airport - Cranes	AD	*24 JUN 2021 / 01 JUL 2022*	
078/2021	Paya Lebar Airport - Luffing Cranes	AD	*24 JUN 2021 / 01 JUN 2022*	
084/2021	Sembawang Aerodrome - Mobile Crane	AD	*24 JUN 2021 / 08 AUG 2022*	
086/2021	Release of weather balloon with dual radiosondes	ENR	*01 AUG 2021 / 01 AUG 2022*	
088/2021	Paya Lebar Airport - Luffer Tower Cranes	AD	*08 JUL 2021 / 11 JUN 2022*	
089/2021	Paya Lebar Airport - Crawler Crane	AD	*08 JUL 2021 / 30 JUN 2022*	
090/2021	Paya Lebar Airport - Mobile Cranes	AD	*08 JUL 2021 / 21 JUL 2022*	
091/2021	Paya Lebar Airport - Obstacles	AD	*08 JUL 2021 / 21 JUN 2022*	
092/2021	Paya Lebar Airport - Luffing Cranes	AD	*08 JUL 2021 / 15 JUN 2022*	
093/2021	Paya Lebar Airport - Tower Crane	AD	*08 JUL 2021 / 15 JUN 2022*	
094/2021	Paya Lebar Airport - Tower Crane	AD	*08 JUL 2021 / 10 JUN 2022*	
096/2021	Paya Lebar Airport - Tower Cranes	AD	*19 AUG 2021 / 01 AUG 2022*	
097/2021	Paya Lebar Airport - Luffer Crane	AD	*19 AUG 2021 / 01 AUG 2022*	

NR/Year	*Subject*	*AIP section(s) affected*	*Period of validity (from/to)*	*Cancellation record*
098/2021	Paya Lebar Airport - Cranes	AD	*19 AUG 2021 / 01 AUG 2022*	
099/2021	Paya Lebar Airport - Mobile Cranes	AD	*19 AUG 2021 / 01 AUG 2022*	
100/2021	Paya Lebar Airport - Luffing Crane	AD	*19 AUG 2021 / 01 AUG 2022*	
101/2021	Paya Lebar Airport - Luffing Cranes	AD	*19 AUG 2021 / 01 OCT 2022*	
102/2021	Paya Lebar Airport - Topless Cranes	AD	*19 AUG 2021 / 01 AUG 2022*	
104/2021	Paya Lebar Airport - Luffing Cranes	AD	*19 AUG 2021 / 01 AUG 2022*	
109/2021	Paya Lebar Airport - Topless Cranes	AD	*10 SEP 2021 / 29 AUG 2022*	
111/2021	Paya Lebar Airport - Topless Crane	AD	*10 SEP 2021 / 01 SEP 2022*	
112/2021	Paya Lebar Airport - Luffing Cranes	AD	*10 SEP 2021 / 01 SEP 2022*	
113/2021	Paya Lebar Airport - Mobile Crane	AD	*10 SEP 2021 / 10 AUG 2022*	
116/2021	Sembawang Aerodrome - Lorry Crane	AD	*10 SEP 2021 / 10 AUG 2022*	
120/2021	Seletar Airport - Closure of Helicopter Landing Area	AD	*01 OCT 2021 / 30 SEP 2022*	
123/2021	Paya Lebar Airport - Topless Cranes	AD	*21 OCT 2021 / 26 SEP 2022*	
124/2021	Paya Lebar Airport - Topless Cranes	AD	*21 OCT 2021 / 22 SEP 2022*	
125/2021	Paya Lebar Airport - Tower Crane	AD	*21 OCT 2021 / 24 OCT 2022*	
126/2021	Paya Lebar Airport - Luffing Cranes	AD	*21 OCT 2021 / 21 SEP 2022*	
127/2021	Paya Lebar Airport - Luffing Cranes	AD	*21 OCT 2021 / 01 OCT 2022*	
128/2021	Paya Lebar Airport - Crawler Crane	AD	*21 OCT 2021 / 01 NOV 2022*	
129/2021	Paya Lebar Airport - Topless Cranes	AD	*21 OCT 2021 / 01 OCT 2022*	
130/2021	Paya Lebar Airport - Mobile Crane	AD	*21 OCT 2021 / 20 SEP 2022*	
131/2021	Paya Lebar Airport - Tower Cranes	AD	*21 OCT 2021 / 23 SEP 2022*	
132/2021	Paya Lebar Airport - Tower Cranes	AD	*21 OCT 2021 / 20 SEP 2022*	
133/2021	Paya Lebar Airport - Tower Crane	AD	*21 OCT 2021 / 06 AUG 2022*	
134/2021	Paya Lebar Airport - Mobile Cranes	AD	*21 OCT 2021 / 01 DEC 2022*	
135/2021	Paya Lebar Airport - Topless Cranes	AD	*09 NOV 2021 / 01 DEC 2022*	
136/2021	Paya Lebar Airport - Cranes	AD	*09 NOV 2021 / 01 NOV 2022*	
137/2021	Paya Lebar Airport - Cranes	AD	*09 NOV 2021 / 01 NOV 2022*	
138/2021	Paya Lebar Airport - Topless Tower Cranes	AD	*09 NOV 2021 / 11 JUN 2022*	
139/2021	Paya Lebar Airport - Luffing Cranes	AD	*09 NOV 2021 / 27 SEP 2022*	
140/2021	Paya Lebar Airport - Crawler Cranes	AD	*09 NOV 2021 / 31 DEC 2022*	

NR/Year	Subject	AIP section(s) affected	Period of validity (from/to)	Cancellation record
142/2021	Sembawang Aerodrome - Bore Piling Rigs	AD	*09 NOV 2021 / 01 JUL 2022*	
144/2021	Paya Lebar Airport - Luffer Cranes	AD	*16 DEC 2021 / 01 DEC 2022*	
145/2021	Paya Lebar Airport - Cranes	AD	*16 DEC 2021 / 01 DEC 2022*	
146/2021	Paya Lebar Airport - Cranes	AD	*16 DEC 2021 / 01 DEC 2022*	
147/2021	Paya Lebar Airport - Cranes	AD	*16 DEC 2021 / 31 DEC 2022*	
148/2021	Paya Lebar Airport - Flat-Top Cranes	AD	*16 DEC 2021 / 31 DEC 2022*	
149/2021	Paya Lebar Airport - Topless Cranes	AD	*16 DEC 2021 / 31 DEC 2022*	
150/2021	Paya Lebar Airport - Cranes	AD	*16 DEC 2021 / 31 DEC 2022*	
151/2021	Paya Lebar Airport - Luffing Crane	AD	*16 DEC 2021 / 01 JUL 2022*	
152/2021	Paya Lebar Airport - Mobile Crane	AD	*16 DEC 2021 / 26 JUN 2022*	
153/2021	Paya Lebar Airport - Luffing Cranes	AD	*16 DEC 2021 / 31 DEC 2022*	
154/2021	Paya Lebar Airport - Luffing Tower Cranes	AD	*16 DEC 2021 / 15 DEC 2022*	
156/2021	Paya Lebar Airport - Crawler Cranes	AD	*16 DEC 2021 / 31 DEC 2022*	
157/2021	Paya Lebar Airport - Cranes	AD	*16 DEC 2021 / 01 DEC 2022*	
158/2021	Sembawang Aerodrome - Tower Cranes	AD	*16 DEC 2021 / 01 DEC 2022*	
159/2021	Sembawang Aerodrome - Mobile Crane	AD	*16 DEC 2021 / 08 NOV 2022*	
161/2021	Singapore Changi Airport - Steel Frame	AD	*17 JAN 2022 / 17 DEC 2024*	
002/2022	Paya Lebar Airport - Luffing Crane	AD	*11 JAN 2022 / 31 DEC 2022*	
004/2022	Paya Lebar Airport - Tower Cranes	AD	*11 JAN 2022 / 31 DEC 2022*	
005/2022	Paya Lebar Airport - Tower Cranes	AD	*11 JAN 2022 / 31 DEC 2022*	
006/2022	Paya Lebar Airport - Luffer Cranes	AD	*11 JAN 2022 / 31 DEC 2022*	
007/2022	Paya Lebar Airport - Cranes	AD	*11 JAN 2022 / 31 DEC 2022*	
008/2022	Paya Lebar Airport - Luffing Crane	AD	*11 JAN 2022 / 31 DEC 2022*	
009/2022	Paya Lebar Airport - Cranes	AD	*11 JAN 2022 / 31 DEC 2022*	
010/2022	Paya Lebar Airport - Topless Cranes	AD	*11 JAN 2022 / 31 DEC 2022*	
011/2022	Paya Lebar Airport - Luffing Crane	AD	*11 JAN 2022 / 31 DEC 2022*	
012/2022	Paya Lebar Airport - Topless Cranes	AD	*11 JAN 2022 / 31 DEC 2022*	
013/2022	Paya Lebar Airport - Topless Cranes	AD	*11 JAN 2022 / 31 DEC 2022*	
014/2022	Paya Lebar Airport - Luffing Crane	AD	*11 JAN 2022 / 01 NOV 2022*	
015/2022	Paya Lebar Airport - Luffing Crane	AD	*11 JAN 2022 / 31 DEC 2022*	

NR/Year	*Subject*	*AIP section(s) affected*	*Period of validity (from/to)*	*Cancellation record*
017/2022	Paya Lebar Airport - Flat-Top Cranes	AD	*11 JAN 2022 / 31 DEC 2022*	
018/2022	Paya Lebar Airport - Luffing Crane	AD	*11 JAN 2022 / 31 DEC 2022*	
019/2022	Paya Lebar Airport - Flat-Top Cranes	AD	*11 JAN 2022 / 01 OCT 2022*	
020/2022	Paya Lebar Airport - Luffing Crane	AD	*11 JAN 2022 / 31 DEC 2022*	
021/2022	Paya Lebar Airport - Cranes	AD	*11 JAN 2022 / 31 DEC 2022*	
022/2022	Paya Lebar Airport - Cranes	AD	*11 JAN 2022 / 31 DEC 2022*	
023/2022	Paya Lebar Airport - Tower Cranes	AD	*11 JAN 2022 / 09 DEC 2022*	
024/2022	Paya Lebar Airport - Flat-Top Cranes	AD	*11 JAN 2022 / 31 DEC 2022*	
025/2022	Paya Lebar Airport - Saddle Cranes	AD	*11 JAN 2022 / 31 DEC 2022*	
028/2022	Paya Lebar Airport - Flat-Top Cranes	AD	*12 JAN 2022 / 31 DEC 2023*	
031/2022	Implementation of Wake Turbulence Separation Minima based on Wake Turbulence Groups for Arrivals into Singapore Changi Airport	AD	*01 MAR 2022* PERM	
032/2022	Paya Lebar Airport - Cranes	AD	*10 FEB 2022 / 31 DEC 2023*	
033/2022	Paya Lebar Airport - Topless Cranes	AD	*10 FEB 2022 / 01 FEB 2023*	
034/2022	Paya Lebar Airport - Crawler Cranes	AD	*10 FEB 2022 / 31 JAN 2023*	
035/2022	Paya Lebar Airport - Suspended Scaffold	AD	*10 FEB 2022 / 31 DEC 2023*	
036/2022	Paya Lebar Airport - Mobile Crane	AD	*10 FEB 2022 / 31 DEC 2023*	
037/2022	Paya Lebar Airport - Crawler Cranes	AD	*10 FEB 2022 / 31 DEC 2023*	
038/2022	Paya Lebar Airport - Mobile Crane	AD	*10 FEB 2022 / 30 JUN 2022*	
039/2022	Paya Lebar Airport - Topless Cranes	AD	*10 FEB 2022 / 24 DEC 2022*	
040/2022	Paya Lebar Airport - Tower Cranes	AD	*10 FEB 2022 / 18 JAN 2023*	
041/2022	Paya Lebar Airport - Mobile Crane	AD	*10 FEB 2022 / 18 SEP 2022*	
042/2022	Paya Lebar Airport - Mobile Crane	AD	*10 FEB 2022 / 31 DEC 2023*	
043/2022	Paya Lebar Airport - Luffing Tower Crane	AD	*10 FEB 2022 / 08 JAN 2023*	
044/2022	Implementation of RNP 4 Navigation Specification on ATS Route M767 and Segment of N884 within Singapore FIR	ENR	*21 APR 2022* PERM	
045/2022	Singapore Changi Airport - Frangible Frames	AD	*01 APR 2022 / 31 JAN 2024*	
046/2022	Paya Lebar Airport - Crawler Cranes	AD	*10 MAR 2022 / 31 DEC 2022*	
047/2022	Paya Lebar Airport - Luffing Crane	AD	*10 MAR 2022 / 31 DEC 2022*	
048/2022	Paya Lebar Airport - Cranes	AD	*10 MAR 2022 / 31 DEC 2023*	

NR/Year	Subject	AIP section(s) affected	Period of validity (from/to)	Cancellation record
049/2022	Paya Lebar Airport - Cranes	AD	*10 MAR 2022 / 31 JAN 2023*	
050/2022	Paya Lebar Airport - Luffing Crane	AD	*10 MAR 2022 / 14 SEP 2022*	
051/2022	Paya Lebar Airport - Tower Cranes	AD	*10 MAR 2022 / 31 DEC 2023*	
052/2022	Paya Lebar Airport - Topless Cranes	AD	*10 MAR 2022 / 03 FEB 2023*	
053/2022	Singapore Changi Airport - Closure of Runway 02C/20C and Taxiways due to Changi East Development Works	AD	*21 APR 2022 / 05 OCT 2022*	
054/2022	Singapore Changi Airport - Closure of aircraft stand F50 and taxilane R7 behind aircraft stand at Terminal 2	AD	*10 MAR 2022 / 31 AUG 2022*	
056/2022	Singapore Changi Airport - Closure of aircraft stand D41 at Terminal 1	AD	*21 APR 2022 / 25 JUL 2022*	
057/2022	Paya Lebar Airport - Luffing Cranes	AD	*12 APR 2022 / 31 MAR 2023*	
058/2022	Paya Lebar Airport - Mobile Cranes	AD	*12 APR 2022 / 30 SEP 2023*	
059/2022	Paya Lebar Airport - Topless Cranes	AD	*12 APR 2022 / 30 SEP 2023*	
060/2022	Paya Lebar Airport - Cranes	AD	*12 APR 2022 / 31 MAR 2023*	
061/2022	Paya Lebar Airport - Mobile Crane	AD	*12 APR 2022 / 30 JUN 2022*	
062/2022	Paya Lebar Airport - Cranes	AD	*12 APR 2022 / 31 MAR 2023*	
063/2022	Paya Lebar Airport - Topless Cranes	AD	*12 APR 2022 / 01 APR 2023*	
064/2022	Paya Lebar Airport - Mobile Cranes	AD	*12 APR 2022 / 30 SEP 2022*	
065/2022	Paya Lebar Airport - Mobile Crane	AD	*12 APR 2022 / 01 AUG 2022*	
066/2022	Paya Lebar Airport - Topless Cranes	AD	*12 APR 2022 / 19 MAR 2023*	
067/2022	Paya Lebar Airport - Obstacles	AD	*12 APR 2022 / 30 DEC 2023*	
068/2022	Paya Lebar Airport - Topless Cranes	AD	*12 APR 2022 / 09 MAR 2023*	
069/2022	Paya Lebar Airport - Luffing Crane	AD	*12 APR 2022 / 01 MAR 2023*	
070/2022	RSAF Aerial Flypast prior to and on Singapore's National Day, 09th August 2022	AD/ENR	*11 JUN 2022 / 13 AUG 2022*	
071/2022	Paya Lebar Airport - Mobile Crane	AD	*05 MAY 2022 / 31 DEC 2022*	
072/2022	Paya Lebar Airport - Tower Crane	AD	*05 MAY 2022 / 11 APR 2023*	
073/2022	Paya Lebar Airport - Cranes	AD	*05 MAY 2022 / 30 APR 2023*	
074/2022	Paya Lebar Airport - Cranes	AD	*05 MAY 2022 / 06 APR 2023*	
075/2022	Sembawang Aerodrome - Mobile Crane	AD	*05 MAY 2022 / 09 OCT 2022*	
076/2022	Sembawang Aerodrome - Mobile Crane	AD	*05 MAY 2022 / 11 DEC 2022*	

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GEN 0.4 CHECKLIST OF AIP PAGES

Part 1 – General (GEN)

GEN 0

GEN 0.1-1	26 MAR 2020
GEN 0.1-2	07 OCT 2021
GEN-0.1-3	19 MAY 2022
GEN 0.2-1	13 SEP 2018
GEN 0.2-2	19 MAY 2022
GEN 0.3-1	19 MAY 2022
GEN 0.3-2	19 MAY 2022
GEN 0.3-3	19 MAY 2022
GEN 0.3-4	19 MAY 2022
GEN 0.3-5	19 MAY 2022
GEN 0.4-1	19 MAY 2022
GEN 0.4-2	19 MAY 2022
GEN 0.4-3	19 MAY 2022
GEN 0.5-1	30 JAN 2020
GEN 0.6-1	05 NOV 2020
GEN 0.6-2	19 MAY 2022
GEN 0.6-3	19 MAY 2022

GEN 1

GEN 1.1-1	05 DEC 2019
GEN 1.1-2	22 APR 2021
GEN 1.2-1	05 NOV 2020
GEN 1.2-2	30 JAN 2020
GEN 1.2-3	19 MAY 2022
GEN 1.2-4	19 MAY 2022
GEN 1.2-5	02 DEC 2021
GEN 1.2-6	16 JUL 2020
GEN 1.2-7	30 JAN 2020
GEN 1.3-1	25 APR 2019
GEN 1.3-2	22 APR 2021
GEN 1.3-3	22 APR 2021
GEN 1.3-4	12 AUG 2021
GEN 1.3-5	22 APR 2021
GEN-1.3/ARR PAX FLOW	25 APR 2019
GEN-1.3/DEP PAX FLOW 1	25 APR 2019
GEN-1.3/DEP PAX FLOW 2	25 APR 2019
GEN 1.4-1	22 APR 2021
GEN 1.4-2	05 NOV 2020
GEN 1.4-3	05 NOV 2020
GEN 1.5-1	12 NOV 2015
GEN 1.6-1	19 MAY 2022
GEN 1.6-2	19 MAY 2022
GEN 1.6-3	19 MAY 2022
GEN 1.6-4	05 NOV 2020
GEN 1.7-1	24 MAR 2022
GEN 1.7-2	27 JAN 2022
GEN 1.7-3	27 JAN 2022
GEN 1.7-4	27 JAN 2022

GEN 2

GEN 2.1-1	24 MAR 2022
GEN 2.1-2	24 MAR 2022
GEN 2.2-1	02 MAR 2017
GEN 2.2-2	02 MAR 2017
GEN 2.2-3	02 MAR 2017
GEN 2.2-4	05 JAN 2017
GEN 2.2-5	10 NOV 2016
GEN 2.3-1	12 NOV 2015
GEN 2.3-2	12 NOV 2015
GEN 2.3-3	12 NOV 2015
GEN 2.4-1	25 APR 2019
GEN 2.5-1	28 FEB 2019
GEN-2.5-3	21 JUL 2016
GEN 2.6-1	12 NOV 2015
GEN 2.6-2	12 NOV 2015
GEN 2.7-1	05 DEC 2019

GEN 3

GEN 3.1-1	19 MAY 2022
GEN 3.1-2	10 OCT 2019
GEN 3.1-3	02 DEC 2021
GEN 3.1-4	19 MAY 2022
GEN 3.2-1	19 MAY 2022
GEN 3.2-2	31 MAR 2016
GEN 3.2-3	31 MAR 2016
GEN 3.2-4	19 MAY 2022
GEN 3.2-5	19 MAY 2022
GEN 3.2-6	19 MAY 2022
GEN 3.3-1	19 MAY 2022
GEN 3.3-2	19 MAY 2022
GEN 3.4-1	19 MAY 2022
GEN 3.4-2	19 MAY 2022
GEN 3.4-3	10 SEP 2020
GEN 3.4-4	19 MAY 2022
GEN 3.4-5	12 NOV 2015
GEN-3.4-7	10 SEP 2020
GEN-3.4-9	21 JUL 2016
GEN 3.5-1	19 MAY 2022
GEN 3.5-2	19 MAY 2022
GEN 3.5-3	19 MAY 2022
GEN 3.5-4	22 APR 2021
GEN 3.5-5	19 MAY 2022
GEN 3.5-6	31 DEC 2020
GEN 3.5-7	19 MAY 2022
GEN 3.5-8	19 MAY 2022
GEN 3.5-9	19 MAY 2022
GEN 3.6-1	19 MAY 2022
GEN 3.6-2	19 MAY 2022
GEN 3.6-3	07 OCT 2021
GEN 3.6-4	07 OCT 2021
GEN-3.6-5	21 JUL 2016

GEN 4

GEN 4.1-1	27 JAN 2022
GEN 4.2-1	24 MAY 2018
GEN 4.2-2	12 NOV 2015
GEN 4.2-3	12 NOV 2015
GEN 4.2-4	12 NOV 2015
GEN 4.2-5	12 NOV 2015
GEN 4.2-6	12 NOV 2015

Part 2 – EN-ROUTE (ENR)

ENR 0

ENR 0.6-1	31 DEC 2020
ENR 0.6-2	31 DEC 2020
ENR 0.6-3	02 DEC 2021
ENR 0.6-4	02 DEC 2021
ENR 0.6-5	02 DEC 2021
ENR 0.6-6	02 DEC 2021

ENR 1

ENR 1.1-1	25 APR 2019
ENR 1.1-2	12 NOV 2015
ENR 1.1-3	12 NOV 2015
ENR 1.1-4	12 NOV 2015
ENR 1.1-5	12 NOV 2015
ENR 1.1-6	12 NOV 2015
ENR 1.1-7	12 NOV 2015
ENR 1.1-8	12 NOV 2015
ENR 1.1-9	12 NOV 2015
ENR 1.1-10	24 MAR 2022
ENR 1.1-11	08 NOV 2018
ENR 1.1-12	08 NOV 2018
ENR 1.1-13	08 NOV 2018
ENR 1.1-14	08 NOV 2018
ENR 1.1-15	27 JAN 2022
ENR 1.2-1	24 MAR 2022
ENR 1.3-1	12 NOV 2015
ENR 1.4-1	12 NOV 2015
ENR 1.5-1	31 DEC 2020
ENR 1.5-2	31 DEC 2020
ENR 1.5-3	31 DEC 2020
ENR 1.5-4	31 DEC 2020
ENR 1.6-1	19 MAY 2022
ENR 1.6-2	12 NOV 2015
ENR 1.6-3	12 NOV 2015
ENR 1.6-4	25 FEB 2021
ENR 1.6-5	31 DEC 2020
ENR 1.6-6	31 DEC 2020
ENR 1.6-7	29 MAR 2018
ENR 1.6-8	29 MAR 2018
ENR-1.6-9	21 JUL 2016
ENR-1.6-11	21 JUL 2016
ENR 1.7-1	15 AUG 2019
ENR 1.7-2	24 MAR 2022
ENR 1.7-3	15 AUG 2019
ENR 1.7-4	15 AUG 2019
ENR 1.7-5	15 AUG 2019
ENR 1.7-6	15 AUG 2019
ENR 1.7-7	15 AUG 2019
ENR 1.8-1	10 OCT 2019
ENR 1.8-2	02 DEC 2021
ENR 1.8-3	02 DEC 2021
ENR 1.8-4	02 DEC 2021
ENR 1.8-5	02 DEC 2021
ENR 1.8-6	02 DEC 2021
ENR 1.8-7	02 DEC 2021
ENR 1.8-8	02 DEC 2021
ENR 1.8-9	02 DEC 2021
ENR 1.8-10	02 DEC 2021
ENR 1.8-11	02 DEC 2021
ENR 1.8-12	02 DEC 2021
ENR 1.8-13	02 DEC 2021
ENR 1.8-14	02 DEC 2021
ENR 1.8-15	02 DEC 2021
ENR 1.8-16	02 DEC 2021
ENR 1.8-17	02 DEC 2021
ENR 1.8-18	02 DEC 2021
ENR 1.8-19	02 DEC 2021
ENR 1.8-20	02 DEC 2021
ENR 1.8-21	02 DEC 2021
ENR 1.8-22	02 DEC 2021
ENR 1.8-23	02 DEC 2021
ENR 1.8-24	02 DEC 2021
ENR 1.8-25	02 DEC 2021
ENR 1.8-26	02 DEC 2021
ENR 1.8-27	02 DEC 2021
ENR 1.8-28	02 DEC 2021
ENR 1.8-29	02 DEC 2021
ENR 1.8-30	02 DEC 2021
ENR 1.9-1	12 AUG 2021
ENR 1.9-2	07 OCT 2021
ENR 1.9-3	07 OCT 2021
ENR 1.9-4	07 OCT 2021
ENR 1.9-5	07 OCT 2021
ENR 1.10-1	25 FEB 2021
ENR 1.10-2	25 FEB 2021
ENR 1.10-3	25 FEB 2021
ENR 1.11-1	16 JUL 2020
ENR 1.12-1	12 NOV 2015
ENR 1.12-2	12 NOV 2015
ENR 1.12-3	12 NOV 2015
ENR 1.12-4	12 NOV 2015
ENR 1.13-1	12 NOV 2015
ENR 1.14-1	10 DEC 2015
ENR 1.14-2	15 SEP 2016
ENR-1.14-3 to ENR-1.14-4	15 SEP 2016
ENR-1.14-5 to ENR-1.14-6	15 SEP 2016
ENR-1.14-7 to ENR-1.14-8	15 AUG 2019

ENR 2

ENR 2.1-1	12 AUG 2021
ENR 2.1-2	03 JAN 2019
ENR 2.1-3	03 JAN 2019
ENR 2.1-4	25 APR 2019
ENR-2.1-7	21 JUL 2016
ENR-2.1-9	17 JUN 2021
ENR-2.1-11A	21 JUL 2016
ENR-2.1-11B	21 JUL 2016
ENR-2.1-13	21 JUL 2016
ENR-2.1-15	19 MAY 2022

ENR 3

ENR 3.1-1	02 MAR 2017
ENR 3.1-2	02 MAR 2017
ENR 3.1-3	07 OCT 2021

AD-2-WSSS-IAC-5	24 MAR 2022
AD-2-WSSS-IAC-6	24 MAR 2022
AD-2-WSSS-IAC-7	24 MAR 2022
AD-2-WSSS-IAC-9 to 9.1	24 MAR 2022
AD-2-WSSS-IAC-10 to 10.1	24 MAR 2022
AD-2-WSSS-IAC-11 to 11.1	24 MAR 2022
AD-2-WSSS-IAC-12 to 12.1	24 MAR 2022
AD-2-WSSS-IAC-13 to 13.1	24 MAR 2022
AD-2-WSSS-IAC-14 to 14.1	24 MAR 2022
AD-2-WSSS-VAC-1	31 DEC 2020
AD 2.WSSL-1	10 SEP 2020
AD 2.WSSL-2	28 FEB 2019
AD 2.WSSL-3	15 AUG 2019
AD 2.WSSL-4	05 DEC 2019
AD 2.WSSL-5	12 AUG 2021
AD 2.WSSL-6	15 AUG 2019
AD 2.WSSL-7	15 AUG 2019
AD 2.WSSL-8	15 AUG 2019
AD 2.WSSL-9	15 AUG 2019
AD 2.WSSL-10	15 AUG 2019
AD 2.WSSL-11	15 AUG 2019
AD 2.WSSL-12	26 MAR 2020
AD 2.WSSL-13	05 DEC 2019
AD 2.WSSL-14	15 AUG 2019
AD 2.WSSL-15	12 AUG 2021
AD 2.WSSL-16	10 OCT 2019
AD 2.WSSL-17	05 NOV 2020
AD 2.WSSL-18	05 NOV 2020
AD 2.WSSL-19	15 AUG 2019
AD 2.WSSL-20	10 OCT 2019
AD 2.WSSL-21	05 NOV 2020
AD 2.WSSL-22	10 OCT 2019
AD 2.WSSL-23	25 FEB 2021
AD 2.WSSL-24	15 AUG 2019
AD 2.WSSL-25	25 FEB 2021
AD-2-WSSL-ADC-1	12 AUG 2021
AD-2-WSSL-ADC-2	12 AUG 2021
AD-2-WSSL-ADC-3	16 JUL 2020
AD-2-WSSL-AOC-1	16 JUL 2020
AD-2-WSSL-AOC-2	16 JUL 2020
AD-2-WSSL-VAC-1	16 JUL 2020
AD-2-WSSL-VAC-2	16 JUL 2020
AD-2-WSSL-VAC-3	16 JUL 2020
AD-2-WSSL-VAC-4	16 JUL 2020
AD-2-WSSL-VDC-1	16 JUL 2020
AD-2-WSSL-VDC-2 to 2.1	25 FEB 2021
AD-2-WSSL-VFR-1	31 DEC 2020
AD-2-WSSL-IFR-1	31 DEC 2020
AD-2-WSSL-IFR-2	31 DEC 2020
AD 2.WSAP-1	16 JUL 2020
AD 2.WSAP-2	19 JUL 2018
AD 2.WSAP-3	10 OCT 2019
AD 2.WSAP-4	19 JUL 2018
AD 2.WSAP-5	10 OCT 2019
AD 2.WSAP-6	12 OCT 2017
AD 2.WSAP-7	19 JUL 2018
AD 2.WSAP-8	12 AUG 2021
AD 2.WSAP-9	07 OCT 2021
AD 2.WSAP-10	16 JUL 2020
AD 2.WSAP-11	07 OCT 2021
AD-2-WSAP-ADC-1	16 JUL 2020
AD-2-WSAP-ADC-2	16 JUL 2020
AD-2-WSAP-AOC-1	24 MAR 2022
AD-2-WSAP-IAC-1	31 DEC 2020
AD-2-WSAP-IAC-2	07 OCT 2021
AD-2-WSAP-IAC-3	07 OCT 2021
AD-2-WSAP-IAC-4	07 OCT 2021
AD-2-WSAP-IAC-5	31 DEC 2020
AD-2-WSAP-IAC-6	07 OCT 2021
AD 2.WSAT-1	16 JUL 2020
AD 2.WSAT-2	26 MAR 2020
AD 2.WSAT-3	25 FEB 2021
AD 2.WSAT-4	25 FEB 2021
AD 2.WSAT-5	12 AUG 2021
AD 2.WSAT-6	07 OCT 2021
AD 2.WSAT-7	12 NOV 2015
AD 2.WSAT-8	25 FEB 2021
AD-2-WSAT-ADC-1	17 JUN 2021
AD 2.WSAG-1	16 JUL 2020
AD 2.WSAG-2	08 NOV 2018
AD 2.WSAG-3	12 AUG 2021
AD 2.WSAG-4	16 JUL 2020
AD 2.WMKJ-1	12 NOV 2015
AD 2.WIDD-1	12 NOV 2015
AD 2.WIDD-2	12 NOV 2015
AD-2-WIDD-SID-1	12 NOV 2015
AD-2-WIDD-SID-2	12 NOV 2015
AD-2-WIDD-SID-3	12 NOV 2015
AD-2-WIDD-SID-4	12 NOV 2015
AD-2-WIDD-STAR-1	12 NOV 2015
AD-2-WIDD-STAR-2	12 NOV 2015
AD-2-WIDD-STAR-3	12 NOV 2015
AD-2-WIDD-STAR-4	12 NOV 2015
AD 2.WIDN-1	03 JAN 2019
AD 2.WIDN-2	03 JAN 2019
AD-2-WIDN-SID-1	12 NOV 2015
AD-2-WIDN-SID-2	12 NOV 2015
AD-2-WIDN-SID-3	12 NOV 2015
AD-2-WIDN-SID-4	12 NOV 2015
AD-2-WIDN-STAR-1	12 NOV 2015
AD-2-WIDN-STAR-2	12 NOV 2015
AD-2-WIDN-STAR-3	21 JUL 2016
AD-2-WIDN-STAR-4	12 NOV 2015

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GEN 0.6 TABLE OF CONTENTS TO PART 1

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- Emergency landings, e.g. diversions or quick returns after takeoff, oil spill response operations;
- Flights operating under diplomatic cover; and
- Humanitarian flights including those responding to medical emergencies where the safety of human life is concerned or involved in search & rescue operations.

4 CIVIL SCHEDULED FLIGHTS

4.1 GENERAL

4.1.1 Before a scheduled service is permitted to operate into the Republic of Singapore, it must be appropriately covered by either an air services agreement, a licence issued in accordance with the Air Navigation (Licensing of Air Services) Regulations or other aeronautical arrangements. All scheduled flights are subject to prior approval.

4.2 APPLICATION FOR TRAFFIC LANDINGS AND UPLIFTS (SCHEDULED FLIGHTS)

4.2.1 Only the airline operator may apply for permission to operate scheduled flights.

4.2.2 All airline operators are to submit their applications for scheduled flights for each IATA schedule season one month before the start of the season for approval by CAAS.

4.2.3 In addition, airline operators are also required to apply for CAAS' approval for any revisions to their schedule filings for the season, ad-hoc changes to flight schedules and flight cancellations. Such applications should be filed through the CAAS Air Transport Licensing and Administration System (ATLAS) at https://atlas.caas.gov.sg 5 working days before flight changes take place.

← 4.2.4 If insufficient notice as specified in paragraphs 4.2.2 and 4.2.3 is given, the application may not be considered.

4.2.5 Airline operators are to ensure that a copy of the following documents, which are to remain valid during the period of operations, are lodged with CAAS:

a. Certificate(s) of Registration(s) for aircraft used;
b. Certificate(s) of Airworthiness for aircraft used; and
c. Air Operator's Certificate

← 4.2.6 All applications and required documents listed in paragraph 4.2.5 should be submitted via ATLAS.

4.3 DOCUMENTARY REQUIREMENTS FOR CLEARANCE OF AIRCRAFT

4.3.1 It is necessary that the undermentioned aircraft documents be submitted by airline operators for clearance on entry and departure of their aircraft to and from Singapore. All documents listed below must follow the ICAO standard format as set forth in the relevant appendices to ICAO Annex 9. They are acceptable in English only and must be completed in legible handwriting. No visas are required in connection with such documents.

4.3.2 *Aircraft Documents Requirements (arrival/departure)*

Required by	General Declaration	Passenger Manifest	Cargo Manifest
Immigration	2	2	-
Customs	1	1	1
Health	1	1	-

a. *One copy of the General Declaration is endorsed and returned by Customs, signifying clearance.*
b. *If no passengers are embarking (disembarking) and no articles are laden (unladen), no aircraft documents except copies of the General Declaration need be submitted to the above authorities.*

5 CIVIL NON-SCHEDULED FLIGHTS

5.1 PROCEDURES

5.1.1 *Overflights*

5.1.1.1 Prior notification is necessary. Subject to the observance of the terms of the Convention on International Civil Aviation, Singapore facilitates overflights by civil aircraft registered in any ICAO Contracting States with which Singapore has diplomatic relations provided adequate advance notification shall have been given.

5.1.1.2 Notification by flight plan addressed to the Singapore Air Traffic Control Centre (WSJCZQZX) if received at least 2 hours in advance of the aircraft's arrival into the Singapore Flight Information Region will normally be accepted as advance notification in this respect.

5.1.1.3 In all other cases, prior permission must be sought and obtained through diplomatic means from the Ministry of Foreign Affairs, Republic of Singapore.

5.1.2 *Non-Traffic or Technical Landings*

5.1.2.1 Prior notification is necessary. Subject to the observance of the terms of the Convention on International Civil Aviation, Singapore facilitates such non-traffic or technical landings by civil aircraft registered in any ICAO Contracting States with which Singapore has diplomatic relations provided adequate advance notification shall have been given.

5.1.2.2 Notification by flight plan addressed to the Singapore Air Traffic Control Centre (WSJCZQZX) if received at least 2 hours in advance of the aircraft's arrival at Singapore Changi Airport or Seletar Aerodrome or 2 hours prior to entering the Singapore Flight Information Region whichever is the earlier will normally be accepted as advance notification in this respect.

5.1.2.3 All business aviation aircraft shall park in a nose-in position and be pushed back with the aid of an aircraft tow-bar and tow-tractor. Reverse thrust or variable pitch propellers shall not be used. The aircraft must carry its own tow-bar. The aircraft operator may make arrangements with the ground handling agent to provide the tow-bar. The aircraft shall be required to be towed to another aircraft stand should the need arise.

5.1.2.4 All passengers of the business aviation flight will have to clear CIQ via the Commercially-Important- Persons facility located at Terminal 2.

5.1.2.5 All business aviation flights must engage a ground handling agent at Singapore Changi Airport.

5.1.2.6 In all other cases, prior permission must be sought and obtained through diplomatic means from the Ministry of Foreign Affairs, Republic of Singapore.

5.1.2.7 All non-traffic aircraft are to submit a copy of the Certificate of Airworthiness to CAAS, after each landing, by facsimile at 6545 6519 or by email to CAAS_FS_FOS@caas.gov.sg

5.1.3 *Application for Traffic Landings and Uplifts (Non-Scheduled Flights)*

5.1.3.1 All non-scheduled flights are subject to prior approval.

5.1.3.2 Only the operator may apply for permission to operate a non-scheduled flight. The following information should be submitted together with the application:

a. Name, address and nationality of operator;
b. Name, address and business of charterer;
c. Type, registration mark and carrying capacity of aircraft;
d. Aircraft documents listed in paragraph 4.2.5;
e. Nature of flight including details of whether the flight is to carry passengers or cargo or both;

   i. for passenger flights: points of origin and destination of passengers, purpose of flight e.g. special event charter, inclusive tours and own-use charter; and the names of passengers.
   ii. for cargo flights: the origin, destination, description, quantities and dimensions of cargo; outbound/inbound or transhipment, as well as whether any item is perishable or classified as dangerous, explosive or munitions of war. (Please see regulations concerning importation, transhipment and exportation of cargo in subsection GEN 1.4).

f. Details of route, points of landing and final destination;
g. Date and time of arrival at, and departure from Singapore (Please see paragraph 5.1.3.4 below);
h. Name, address and telephone number of operator's local agent and ground handling agent;
i. Name and address of consignees and consignors, where applicable;
j. Any other information that may be relevant to the proposed operations.

5.1.3.3 All applications must be submitted via https://atlas.caas.gov.sg

The complete application and its supporting documents must reach the Civil Aviation Authority of Singapore Air Transport Division via the weblink provided at least 3 working days prior to the aircraft's arrival or departure into/from Singapore to be considered for a "normal permit". Operators who wish to obtain a permit under 3 working days may submit their applications. Such applications must reach the Air Transport Division at least 24 hours before the proposed flight to be considered for an "express permit". Applicants for express permits should alert the Air Transport Duty Officer at +65 98331775. Applications will not be considered if insufficient notice is given (not applicable for emergency flights e.g. flights on humanitarian grounds).

5.1.3.4 Operators, other than operators of business aviation aircraft as stated in paragraph 5.1.3.5, should schedule their arrivals and departures at Singapore Changi Airport outside the hours 0001 to 0200 UTC (0801-1000 LT) and 0900 to 1559 UTC (1700-2359 LT). Subject to approval (depending on aircraft stand availability), aircraft may be permitted to remain on the ground during the above times on condition that the aircraft vacates the aircraft stand if the need arises. *(Please see GEN 4.1 paragraph 1.5 b) regarding off-peak discount of 40% on landing charges).*

GEN 1.6 SUMMARY OF NATIONAL REGULATIONS AND INTERNATIONAL AGREEMENTS/CONVENTIONS

1 LIST OF CIVIL AVIATION LEGISLATION, AIR NAVIGATION REGULATIONS AND ORDERS

The following is a list of legislation (Acts and subsidiary legislation) affecting aviation and air navigation in the Republic of Singapore together with the International Agreements/Conventions acceded to by the Republic of Singapore. It is essential that anyone engaged in air operations be acquainted with the relevant legal documents.

Copies of the legislation may be obtained as follows:

Electronic versions of the legislation may be freely accessed at
https://sso.agc.gov.sg
https://www.caas.gov.sg

Electronic versions of all Singapore legislation may be accessed via subscription to Lawnet at
https://www.lawnet.com.sg

Print copies of all the legislation may be purchased (by post) from:

Post:
Toppan Leefung Pte. Ltd.,
No. 1 Kim Seng Promenade, #18-01,
Great World City, East Lobby
Singapore 237994.
Tel: (65) 68269600
Fax: (65) 68203341
URL: www.toppanleefung.com

1.1 CIVIL AVIATION LEGISLATION

No	Legislation	Citation
Civil Aviation Authority of Singapore Act & related legislation		
1	Civil Aviation Authority of Singapore Act	Cap. 41 (2014 Rev Ed.)
2	Civil Aviation Authority of Singapore (Airport Development Levy) Order 2018	S437/2018
3	Civil Aviation Authority of Singapore (Aviation Levy) Order 2018	S522/2018
4	Civil Aviation Authority of Singapore (Changi Airport) By-laws 2009	S313/2009
5	Civil Aviation Authority of Singapore (Changi Airport) Notification 2009	S293/2009
6	Civil Aviation Authority of Singapore (Composition of Offences) Regulations 2009	S315/2009
7	Civil Aviation Authority of Singapore (Licensing of Airport Operators) Regulations 2009	S311/2009
8	Civil Aviation Authority of Singapore (Price Control of Aeronautical Charges) Rules 2009	S298/2009
9	Civil Aviation Authority of Singapore (Seletar Airport) By-laws 2009	S314/2009
10	Civil Aviation Authority of Singapore (Seletar Airport) Notification 2009	S294/2009
11	Delegation of Powers	Cap. 41, N1
Air Navigation Act & related legislation		
12	Air Navigation Act 1966	Cap. 6 (2014 Rev Ed.)
13	Air Navigation Order	Cap. 6, O2 (1990 Rev Ed.)
14	Air Navigation (101 - Unmanned Aircraft Operations) Regulations 2019	S833/2019
15	Air Navigation (119 – Air Operator Certification) Regulations 2018	S443/2018
16	Air Navigation (121 – Commercial Air Transport by Large Aeroplanes) Regulations 2018	S444/2018
17	Air Navigation (125 – Complex General Aviation) Regulations 2018	S501/2018

No	Legislation	Citation
18	Air Navigation (135 – Commercial Air Transport by Helicopters and Small Aeroplanes) Regulations 2018	S445/2018
19	Air Navigation (137 – Aerial Work) Regulations 2018	S502/2018
20	Air Navigation (91 – General Operating Rules) Regulations 2018	S441/2018
21	Air Navigation (98 – Special Operations) Regulations 2018	S442/2018
22	Air Navigation (99 - Breath Testing for Alcohol) Regulations 2019	S177/2019
23	Air Navigation (Aviation Security) Order	Cap. 6, O5
24	Air Navigation (Composition of Offences) Rules 2017	S667/2017
25	Air Navigation (Flight Crew Recency - Exemption) Order 2020	S347/2020
26	Air Navigation (Investigation of Accidents and Incidents) Order	Cap. 6, O7
27	Air Navigation (Licensing of Air Services) Regulations	Cap. 6, RG 2
28	Air Navigation (Paya Lebar and Tengah Aerodrome Fees) Order	Cap. 6, O1
29	Air Navigation (Prohibited Flights) Order	Cap. 6, O6
30	Air Navigation (Protected Areas) (No. 2) Order 2015	S435/2015
31	Air Navigation (Protected Areas) Order 2015	S350/2015
32	Air Navigation (Regulated Air Cargo Agents and Known Consignors) Regulations 2017	S166/2017
33	Air Navigation (Wreck and Salvage of Aircraft) Regulations	Cap. 6, RG 1
34	Designation of Authorised Persons	Cap. 6, N2
35	Use of Seletar Aerodrome	Cap. 6, N1
Other Acts & related legislation		
36	Carriage by Air Act 1988	Cap. 32A (2001 Rev Ed.)
37	Carriage by Air (Parties to Conventions) Order	Cap. 32A, O1
38	Carriage by Air (Singapore Currency Equivalents) Order	Cap. 32A, O2
39	Carriage by Air (Montreal Convention, 1999) Act 2007	Cap. 32B (2008 Rev Ed.)
40	Carriage by Air (Montreal Convention, 1999) (Exclusion from Convention) Order	Cap. 32B, O1
41	Tokyo Convention Act 1971	Cap. 327 (1985 Rev Ed.)
42	Tokyo Convention (Convention Countries) Notification	Cap. 327, N1
43	Tokyo Convention (Protocol Countries) Notification 2019	S893/2019
44	Hijacking of Aircraft and Protection of Aircraft and International Airports Act 1978	Cap. 124 (1997 Rev Ed.)
45	Infrastructure Protection Act 2017	Act 41 of 2017
46	International Interests in Aircraft Equipment Act 2009	Cap. 144B (2012 Rev Ed.)
47	Immigration Act 1959	Cap. 133 (2008 Rev Ed.)
48	Immigration (Authorised Places of Entry and Departure, and Rates) Notification 2012	S627/2012
49	Immigration Regulations	Cap. 133, RG 1
50	Arms and Explosives Act 1913	Cap. 13 (2003 Rev Ed.)
51	Arms and Explosives (Aircraft Exemption) Rules	Cap. 13, R3
52	Arms and Explosives (Explosives) Rules	Cap. 13, R2
53	Arms and Explosives (Movement Control) Rules	Cap. 13, R4
54	International Organisations (Immunities and Privileges) Act 1948	Cap. 145 (2013 Rev Ed.)
55	International Organisations (Immunities and Privileges) (International Civil Aviation Organisation) Order	Cap. 145, OR 4

1.2 OTHER RELEVANT LEGISLATION

No	Legislation	Citation
1	COVID-19 (Temporary Measures) Act 2020	Act 14 of 2020
2	COVID-19 (Temporary Measures) (Control Order) Regulations 2020	S254/2020
3	COVID-19 (Temporary Measures) (Extension of Prescribed Period) Order 2021	S178/2021
4	COVID-19 (Temporary Measures) (Extension of Prescribed Period) (No. 2) Order 2021	S268/2021
5	COVID-19 (Temporary Measures) (Extension of Prescribed Period) Order 2020	S886/2020
6	COVID-19 (Temporary Measures) (Prescribed Period) Order 2020	S302/2020
7	COVID-19 (Temporary Measures) (Substitution of Period) Order 2021	S122/2021
8	Infectious Diseases Act 1976	Cap. 137 (2003 Rev Ed.)
9	Infectious Diseases (Certificates of Vaccination or Other Prophylaxis) Regulations 2008	S611/2008
10	Infectious Diseases (Quarantine) Regulations	Cap. 137, RG 1
11	Arms and Explosives (Arms) Rules	Cap. 13, R1
12	Inspector of Explosives	Cap. 13, N1
13	Arms Offences Act 1973	Cap. 14 (2008 Rev Ed.)

Note: "Cap." means "Chapter ", unless otherwise stated.

1.3 INTERNATIONAL CONVENTIONS AND PROTOCOLS

No	Legislation
1	Convention on International Civil Aviation, done at Chicago on 7 December 1944
2	International Air Services Transit Agreement, signed at Chicago on 7 December 1944
3	Protocol Relating to an Amendment to the Convention on International Civil Aviation [Article 83 bis], signed at Montreal on 6 October 1980
4	Convention on Offences and Certain Other Acts Committed on Board Aircraft, signed at Tokyo on 14 September 1963
5	Protocol to Amend the Convention on Offences and Certain Other Acts Committed on Board Aircraft, done at Montreal on 4 April 2014
6	Convention for the Suppression of Unlawful Seizure of Aircraft, signed at The Hague on 16 December 1970
7	Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation,signed at Montreal on 23 September 1971
8	Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation, Supplementary to the Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation, done at Montreal on 23 September 1971, signed at Montreal on 24 February 1988
9	Convention on the Marking of Plastic Explosives for the Purpose of Detection, signed at Montreal on 1 March 1991
10	Convention for the Unification of Certain Rules Relating to International Carriage by Air, signed at Warsaw on 12 October 1929
11	Protocol to Amend the Convention for the Unification of Certain Rules Relating to International Carriage by Air signed at Warsaw on 12 October 1929, done at The Hague on 28 September 1955
12	Montreal Protocol No. 4 to Amend the Convention for the Unification of Certain Rules Relating to International Carriage by Air, signed at Warsaw on 12 October 1929, signed at Montreal on 25 September 1975
13	Convention for the Unification of Certain Rules for International Carriage by Air, signed at Montreal on 28 May 1999
14	Convention on International interests in Mobile Equipment, signed at Cape Town on 16 November 2001
15	Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Aircraft Equipment, signed at Cape Town on 16 November 2001
16	Protocol for the Amendment Agreement on the Joint Financing of Certain Air Navigation Services in Iceland (1956) as amended in 1982 and 2008
17	Protocol for the Amendment Agreement on the Joint Financing of Certain Air Navigation Services in Greenland (1956) as amended in 1982 and 2008
18	The International COSPAS-SARSAT Programme Agreement, done at Paris on 1 July 1988

2 TAXATION IN THE FIELD OF INTERNATIONAL AIR TRANSPORT

2.1 Petroleum exemptions and income tax

a. Petroleum for aircraft is granted Goods and Services Tax (GST) relief under item 11 of the Schedule to the GST (Imports Relief) Order (2001 Rev Ed.).

b. The matter of income tax on air transport is contained within Section 12(2) of the Income Tax Act (2014 Rev Ed.).

Where a non-resident person carries on either:

i. the business of shipowner or charterer, or

ii. the business of air transport,

and any ship or aircraft owned or chartered by him calls at a port, an aerodrome or an airport in Singapore, his full profits arising from the carriage of passengers, mail, livestock or goods shipped, or loaded into an aircraft, in Singapore shall be deemed to accrue in Singapore.

This subsection shall not apply to passengers, mail, livestock or goods which are brought to Singapore solely for transhipment, or for transfer from one aircraft to another or from an aircraft to a ship or from a ship to an aircraft.

2.2 Capital gains tax, or income on wealth, etc.

There is no capital gains tax, or income on wealth, etc., which are chargeable on the sale or use of international air transport.

GEN 3 SERVICES

GEN 3.1 AERONAUTICAL INFORMATION SERVICES

3.1.1 RESPONSIBLE SERVICE

1.1 Aeronautical Information Services is a unit of the Air Traffic Services Division of the Civil Aviation Authority of Singapore which ensures the flow of information necessary for the safety, regularity and efficiency of international and national air navigation within the area of its responsibility as indicated under paragraph 2 below. It consists of the AIS Headquarters and International NOTAM Office (NOF). Changi and Seletar AIS Aerodrome units operate 24 hours at the same location.

1.2 AIS Headquarters

Post:
Aeronautical Information Services
Civil Aviation Authority of Singapore
Singapore Changi Airport
P.O. Box 1
Singapore 918141

Tel: (65) 64227036
Fax: (65) 64410221
Email: caas_singaporeais@caas.gov.sg

1.3 International NOTAM office (NOF) and Changi and Seletar AIS Aerodrome Units

Post:
Singapore Air Traffic Control Centre (SATCC)
60 Biggin Hill Road
Singapore 509950

Tel: (65) 65956056 (Duty Supervisor)
Tel: (65) 65956053 (NOF)
AFS: WSSSYNYX (NOF)
Tel: (65) 65956052 (Changi FPL Officer)
Fax: (65) 65431826 (Changi AIS)
AFS: WSSSZPZX (Changi AIS)
Tel: (65) 64812909 (Seletar FPL Officer)
Fax: (65) 64833044 (Seletar AIS)
AFS: WSSLZPZX (Seletar AIS)

The service is provided in accordance with the provisions contained in ICAO Annex 15 - Aeronautical Information Services and the guidance material in the Aeronautical Information Services Manual (Doc 8126 - AN/872).

3.1.2 AREA OF RESPONSIBILITY

Aeronautical Information Services is responsible for the collection and dissemination of information for the entire territory of Singapore and for the airspace over the high seas encompassed by the Singapore Flight Information Region.

3.1.3 AERONAUTICAL PUBLICATIONS

3.1 Aeronautical information is provided in the form of Aeronautical Information Products containing the following elements:

Aeronautical Information Publication (AIP) and related amendment service;
AIP Supplement (AIP SUP);
Notice to Airmen (NOTAM) and Pre-flight Information Bulletins (PIB);
Aeronautical Information Circulars (AIC); and
Aeronautical Charts

NOTAM and related monthly checklists are disseminated via the AFS and PIB via internet. All the other elements of the Aeronautical Information Products can be retrieved from AIM-SG URL at https://aim-sg.caas.gov.sg

3.2 Aeronautical Information Publication (AIP)

AIP Singapore is the basic aeronautical information document published for the Republic of Singapore and contains information of a lasting character essential to air navigation. It is available in English only. It is maintained up-to-date by a regular amendment service.

3.3 Amendment service to the AIP (AIP AMDT)

AIP AMDT is published in accordance with the established regular intervals (see GEN 0.1-2 paragraph 3.2). It incorporates permanent changes to the AIP on the indicated publication date.

A brief description of the amendments and changes made are provided in the AIP AMDT cover page.

Each AIP AMDT cover page also includes references to the serial numbers of those elements, if any, of the Integrated Aeronautical Information Package which have been incorporated into the AIP by the amendment.

Each AIP AMDT is allocated a serial number which is consecutive and based on the calendar year. The year, indicated by two digits, is a part of the serial number of the AIP AMDT.

3.4 AIP Supplement (AIP SUP)

Temporary changes of long duration (3 months or more) and information of short duration which contains extensive text and/or graphics, supplementing the permanent information contained in the AIP, are published as AIP SUP. Operationally significant changes to the AIP are published in accordance with the AIRAC system and its established effective dates, and are identified clearly by the acronym AIRAC.

Each AIP SUP (regular or AIRAC) is allocated a serial number which is consecutive and based on the calendar year.

An AIP SUP is kept as long as all or some of its contents remain valid. The period of validity of the information contained in the AIP SUP will normally be given in the AIP SUP itself. Alternatively, NOTAM may be used to indicate changes to the period of validity or cancellation of the AIP SUP.

The checklist of current AIP SUP is published in the monthly plain-language NOTAM List.

3.5 NOTAM and Pre-flight Information Bulletins (PIB)

A NOTAM contains information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel engaged in flight operations. Each NOTAM contains information in the order shown in the ICAO NOTAM format and is composed of abbreviated phraseology assigned to the ICAO NOTAM code complemented by ICAO abbreviations, indicators, identifiers, designators, callsigns, frequencies, figures and plain language. NOTAM originated and issued for Singapore FIR are distributed in ‘A’ series.

NOTAM are published as and when necessary to disseminate information of direct operational significance which:

a. is of an ephemeral nature;
b. requires advance distribution; or
c. is appropriate to the AIP but needs immediate dissemination.

Each NOTAM is assigned a 4-digit serial number preceded by the letter ‘A’ indicating the series, followed by a stroke and 2 digits indicating the year of issue. The serial numbers begin with 0001 every year. A checklist of current NOTAMs is issued every month via the AFS. Additionally, a monthly plain language list of valid NOTAM, including indications of the latest AIP Amendment, AIP Supplement, AIC issued and a checklist of current AIP Supplements is also retrievable online at https://aim-sg.caas.gov.sg

NOTAM are exchanged with other International NOTAM Offices (NOF) as follows:

NOTAM exchanged with other NOF (R=Received only, S=Sent only, EAD=Received from/Sent to European AIS Database)		
Abu Dhabi	Jakarta	Paro (R)
Addis Ababa	Jeddah	Phnom Penh (R)
Almaty (EAD)	Johannesburg	Plaisance
Amman (EAD)	Kabul	Port Moresby
Amsterdam (EAD)	Karachi	Praha (S)
Ankara (EAD)	Kathmandu	Pyongyang
Antananarivo	Khartoum (R)	Riga (EAD)
Athinai	Kobenhavn (EAD)	Roma
Baghdad	Kolkata	Sanaa
Bahrain	Kuala Lumpur	Sarajevo (S)
Baku (EAD)	Kuwait	Seoul
Bangkok	Kyiv (EAD)	Shannon (EAD)
Beijing	Lisboa (EAD)	Sofia
Beograd (EAD)	Ljubljana (EAD)	Stockholm (EAD)
Brasilia (S)	Lobamba (R)	Taipei
Brazzaville (R)	London (EAD)	Tallinn (EAD)
Brunei	Luqa (EAD)	Tbilisi (EAD)
Bruxelles (EAD)	Macao	Tehran
Bucuresti (EAD)	Madrid (EAD)	Tel Aviv
Budapest (EAD)	Mahé	Tirana (EAD)
Cairo (S)	Male	Tokyo
Canberra	Manila (EAD)	Tripoli
Chennai	Maseru (R)	Vientiane
Christchurch	Minsk (EAD)	Vilnius (EAD)
Colombo	Moskva	Warsaw (S) (EAD)
Damascus (R)	Mumbai	Washington
Dar es-Salaam (R)	Muscat	Wien (EAD)
Dhaka	Nadi	Windhoek (R)
Frankfurt (EAD)	Nairobi	Yangon
Hanoi	New Delhi	Yerevan (S) (EAD)
Harare	Nicosia (EAD)	Zagreb (EAD)
Helsinki (EAD)	Ottawa	Zurich
Hong Kong	Paris (EAD)	

SNOWTAM

Series S (SNOWTAM) comprises information concerning the presence or cessation of hazardous conditions due to snow, ice, slush, frost, standing water or water associated with snow, slush, ice or frost on the movement area.

SNOWTAM is issued for Singapore Changi Airport and Seletar Airport in accordance with ICAO PANS-AIM (Doc 10066), Appendix 4 by the International NOTAM Office (NOF).

Pre-flight Information Bulletin (PIB), a recapitulation of valid NOTAM in plain language, can be retrieved from AIM-SG URL: https://aim-sg.caas.gov.sg

3.6 Aeronautical Information Circular (AIC)

Aeronautical Information Circular (AIC) contains information on the long-term forecast of major change in legislation, regulations, procedures or facilities; information of a purely explanatory or advisory nature liable to affect flight safety; and information or notification of an explanatory or advisory nature concerning technical, legislative or purely administrative matters which is inappropriate to the AIP or NOTAM, and is published as required.

Each AIC is numbered consecutively on a calendar year basis. The year, indicated by 2 digits, is a part of the serial number of the AIC. A checklist of current AIC is issued in the form of an AIC once a year.

3.7 Aeronautical Charts

Aeronautical charts are a visual representation of a portion of the Earth specifically designated to meet the needs of air navigation.

3.8 Sale of publications

The Aeronautical Information Products can be accessed freely via AIM-SG URL: https://aim-sg.caas.gov.sg.

3.1.4 AIRAC SYSTEM

4.1 In order to control and regulate operationally significant changes requiring amendments to charts, route manuals, etc., such changes, whenever possible, will be issued on predetermined dates according to the AIRAC SYSTEM. This type of information will be published in an AIRAC AIP Supplement.

4.2 AIRAC information will be issued so that the information will be received by the user not later than 28 days, and for major changes not later than 56 days, before the effective date. The table below indicates AIRAC effective dates for Years 2022 to 2026:

AIRAC Effective Dates				
Year 2022	**Year 2023**	**Year 2024**	**Year 2025**	**Year 2026**
27 January	26 January	25 January	23 January	22 January
24 February	23 February	22 February	20 February	19 February
24 March	23 March	21 March	20 March	19 March
21 April	20 April	18 April	17 April	16 April
19 May	18 May	16 May	15 May	14 May
16 June	15 June	13 June	12 June	11 June
14 July	13 July	11 July	10 July	09 July
11 August	10 August	08 August	07 August	06 August
08 September	07 September	05 September	04 September	03 September
06 October	05 October	03 October	02 October	01 October
03 November	02 November	31 October	30 October	29 October
01 December	30 November	28 November	27 November	26 November
29 December	28 December	26 December	25 December	24 December

4.3 A TRIGGER NOTAM will be issued 10 days before the effective date of the AIRAC AIP Supplement giving a brief description of the contents of the AIP Supplement, the effective date and the reference number of the AIRAC AIP Supplement. This trigger NOTAM will come into force on the same effective date as the AIRAC AIP Supplement and will remain in force until 14 days after the effective date.

4.4 A NIL AIRAC NOTAM will be issued one cycle before the AIRAC effective date if no information is submitted for publication of an AIRAC AIP Supplement for an AIRAC effective date. The NIL AIRAC NOTAM will remain current for a duration of 14 days.

3.1.5 PRE-FLIGHT INFORMATION SERVICE AT AERODROMES

Aerodrome	***Briefing Coverage***	***Availability of Bulletins***
SINGAPORE CHANGI	All route stages emanating from Singapore.	Pre-flight Information Bulletin (PIB) can be retrieved from AIM-SG URL - https://aim-sg.caas.gov.sg
SELETAR		

3.1.6 DIGITAL DATA SETS

To be developed.

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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.

3.2.2 MAINTENANCE OF CHARTS

2.1 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.

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

3.2.3 PURCHASE ARRANGEMENTS

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

3.2.4 AERONAUTICAL CHART SERIES AVAILABLE

4.1 **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

4.2 **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. The 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

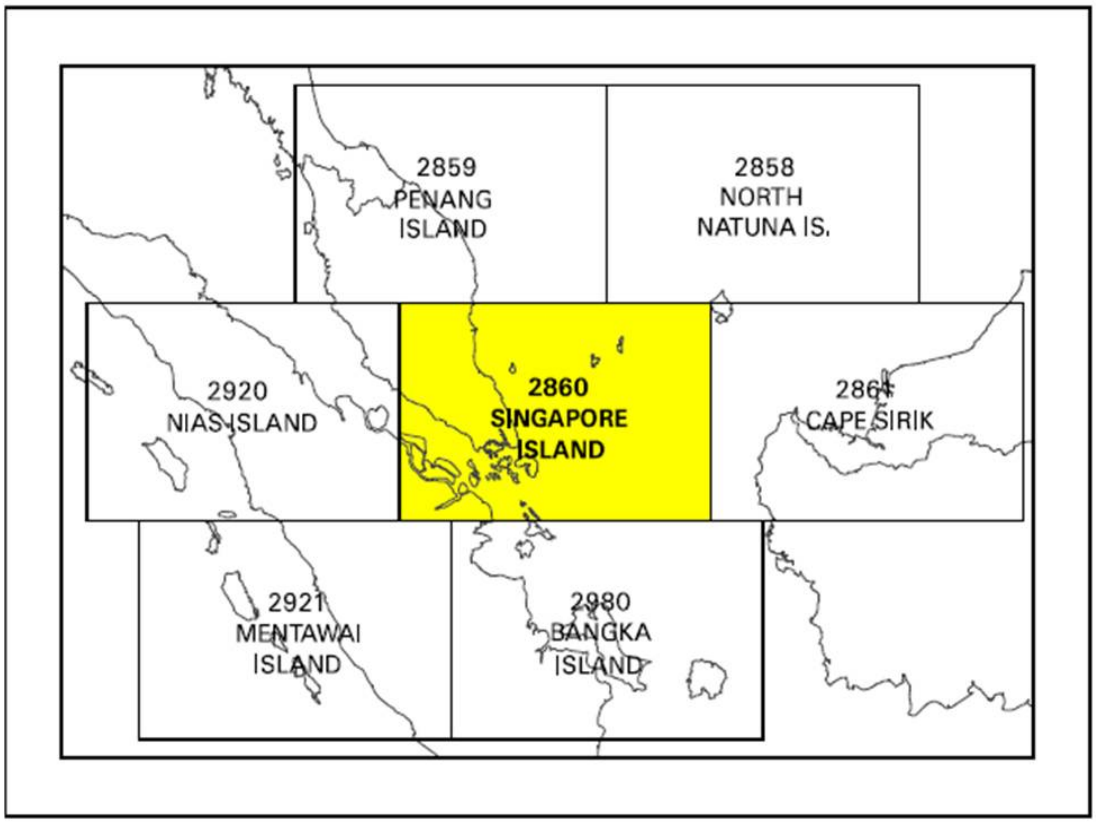
The aeronautical data shown include information on aerodromes obstacles, designated airspace, visual approach information, radio navigation aids and communication facilities, as appropriate.

3.2.5 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*
World Aeronautical Chart ICAO (WAC)	1:1 000 000		WAC 2860	In AIP	19 MAY 22
Enroute Chart ICAO (ENRC)			ERC 6-1	In AIP	19 MAY 22
Instrument Approach Chart ICAO (IAC)		***Singapore Changi***			
	1:400 000	RWY 02L - ICW ILS/DME	AD-2-WSSS-IAC-1	In AIP	24 MAR 22
	1:400 000	RWY 02C - ICE ILS/DME	AD-2-WSSS-IAC-2	In AIP	24 MAR 22
	1:400 000	RWY 20R - ICH ILS/DME	AD-2-WSSS-IAC-5	In AIP	24 MAR 22
	1:400 000	RWY 20C - ICC ILS/DME	AD-2-WSSS-IAC-6	In AIP	24 MAR 22
	1:400 000	RWY 20C - VTK DVOR/DME	AD-2-WSSS-IAC-7	In AIP	24 MAR 22
	1:400 000	RWY 02L - RNP	AD-2-WSSS-IAC-9	In AIP	24 MAR 22
	1:400 000	RWY 02C - RNP	AD-2-WSSS-IAC-10	In AIP	24 MAR 22
	1:400 000	RWY 20R - RNP	AD-2-WSSS-IAC-11	In AIP	24 MAR 22
	1:400 000	RWY 20C - RNP	AD-2-WSSS-IAC-12	In AIP	24 MAR 22
	1:400 000	RWY 02R - RNP	AD-2-WSSS-IAC-13	In AIP	24 MAR 22
	1:400 000	RWY 20L - RNP	AD-2-WSSS-IAC-14	In AIP	24 MAR 22
		Paya Lebar			
	1:400 000	RWY 20 - PU DVOR/DME	AD-2-WSAP IAC-1	In AIP	31 DEC 20
	1:400 000	RWY 02 - PU DVOR/DME	AD-2-WSAP IAC-2	In AIP	07 OCT 21
	1:400 000	RWY 20 - IPS ILS/DME	AD-2-WSAP IAC-3	In AIP	07 OCT 21
	1:400 000	RWY 02 - IPN ILS/DME	AD-2-WSAP IAC-4	In AIP	07 OCT 21
	1:400 000	RWY 02 - RNP	AD-2-WSAP-IAC-5	In AIP	31 DEC 20
	1:400 000	RWY 20 - RNP	AD-2-WSAP-IAC-6	In AIP	07 OCT 21
Visual Approach Chart ICAO (VAC)	1:400 000	***Singapore Changi***	AD-2-WSSS-VAC-1	In AIP	31 DEC 20
		Seletar			
	1:100 000	RWY 03	AD-2-WSSL-VAC-1	In AIP	16 JUL 20
	1:100 000	RWY 21	AD-2-WSSL-VAC-2	In AIP	16 JUL 20
	1:100 000	RWY 03	AD-2-WSSL-VAC-3	In AIP	16 JUL 20
	1:100 000	RWY 21	AD-2-WSSL-VAC-4	In AIP	16 JUL 20
Visual Departure Chart		***Seletar***			
	1:100 000	RWY 03	AD-2-WSSL-VDC-1	In AIP	16 JUL 20
	1:100 000	RWY 21	AD-2-WSSL-VDC-2	In AIP	25 FEB 21
Aerodrome Chart ICAO (AC)		***Singapore Changi***	AD-2-WSSS-ADC-2	In AIP	19 MAY 22
		Seletar	AD-2-WSSL-ADC-1	In AIP	12 AUG 21
		Paya Lebar	AD-2-WSAP-ADC-1	In AIP	16 JUL 20
Aerodrome Obstacle Chart ICAO TYPE A (AOC)		***Singapore Changi***			
	1:10 000	RWY 20R/02L	AD-2-WSSS-AOC-1	In AIP	16 JUL 20
	1:10 000	RWY 20C/02C	AD-2-WSSS-AOC-2	In AIP	31 DEC 20
	1:10 000	RWY 02R/20L	AD-2-WSSS-AOC-4	In AIP	22 APR 21
		Seletar			
	1:10 000	RWY 03/21	AD-2-WSSL-AOC-1	In AIP	16 JUL 20
		Paya Lebar			
	1:20 000	RWY 20/02	AD-2-WSAP-AOC-1	In AIP	24 MAR 22

GEN 3.2.5 LIST OF AERONAUTICAL CHARTS AVAILABLE					
Title of Chart Series	*Scale*	*Name and/or number*		*Price ($)*	*Date*
Aerodrome Obstacle Chart ICAO TYPE B (AOC)		***Singapore Changi***			
	1:20 000	RWY 02L/20R, 02C/20C and RWY 02R/20L	AD-2-WSSS-AOC-3	In AIP	12 AUG 21
		Seletar			
	1:20 000	RWY 03/21	AD-2-WSSL-AOC-2	In AIP	16 JUL 20
Precision Approach Terrain Chart ICAO (PATC)		***Singapore Changi***			
	1:2 500	RWY 02L	AD-2-WSSS-PATC-1	In AIP	10 OCT 19
	1:2 500	RWY 20C	AD-2-WSSS-PATC-2	In AIP	01 FEB 18
	1:2 500	RWY 02R	AD-2-WSSS-PATC-3	In AIP	31 DEC 20
	1:2 500	RWY 20L	AD-2-WSSS-PATC-4	In AIP	31 DEC 20

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



3.2.7 TOPOGRAPHICAL CHARTS

NIL

3.2.8 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

GEN 3.3 AIR TRAFFIC SERVICES

3.3.1 RESPONSIBLE SERVICE

1.1 The Director of the Air Traffic Services Division of the Civil Aviation Authority of Singapore (CAAS) acting under the authority of the Director-General of Civil Aviation is the authority responsible for the overall administration of air traffic services within the Singapore FIR.

Post:
Director (Air Traffic Services)
Air Traffic Services Division
Civil Aviation Authority of Singapore
Singapore Changi Airport
P. O. Box 1, Singapore 918141

Tel: (65) 65412669
Fax: (65) 6441 0221
AFS: WSJCZQZX

1.2 The services are provided in accordance with the provisions contained in the following ICAO documents:

Annex 2 – *Rules of the Air*
Annex 11 – *Air Traffic Services*
Doc 4444 – *Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM)*
Doc 8168 – *Procedures for Air Navigation Services - Aircraft Operations (PANS-OPS)*
Doc 7030 – *Regional Supplementary Procedures*

1.3 Differences to these provisions are detailed in subsection GEN 1.7.

3.3.2 AREA OF RESPONSIBILITY

2.1 Air traffic services are provided for the entire territory of Singapore, including its territorial waters as well as the airspace over the high seas within the Singapore FIR.

2.2 In some cases, in accordance with the regional air navigation agreement, air traffic services are provided, under the delegated authority, in the airspace within another bordering FIR. Details of such services are provided in section ENR 2.

3.3.3 TYPES OF SERVICES

3.1 The following types of services are provided:

- Flight Information Service (FIS) and Alerting Service (ALRS);
- Area Control (ACC); and
- Radar

3.2 With the exception of services provided at military air bases, the following types of services are provided at aerodromes:

- Aerodrome Control (TWR);
- Aerodrome Flight Information Service (AFIS); and
- Automatic Terminal Information Service (ATIS) at certain aerodromes

3.3 Air Traffic Control is exercised:

a. on airways covering the main ATS routes;
b. within the Singapore/Johor Airspace Complex and in control zones at controlled aerodromes equipped with approach and/or landing aids.

3.4 Flight information service and alerting service within the Singapore FIR and air traffic control services in control areas are provided by one centre (ACC Singapore). There is no distinction between upper and lower controlled airspace. The axis of each airway is constituted by a line connecting reference points identified normally by radio navigational facilities.

3.5 Air traffic control, flight information and alerting services are provided by:

a. ACC Singapore along the airways including those parts of the airways traversing the Singapore/ Johor Airspace Complex;
b. the relevant aerodrome control tower in coordination with ACC Singapore as necessary, for arriving and departing aircraft.

3.6 Radar service is an integral part of the ATS system. A description of radar services and procedures is provided in subsection ENR 1.6. Additional procedures applicable within the Singapore / Johor Airspace Complex are contained in sub-section ENR 1.1.

3.7 The description of the airspace designated for air traffic services purpose is found in several tables, all forming part of sub-section ENR 2.1.

3.8 In general, the air traffic rules and procedures in force and the organisation of air traffic services are in conformity with ICAO Standards, Recommended Practices and Procedures. The regional supplementary procedures and altimeter setting procedures are set out in full. Differences between the national and international rules and procedures are given in sub-section GEN 1.7.

3.9 A few prohibited areas, restricted areas and danger areas are established within the Singapore/Johor Airspace Complex. These areas are shown in sub-section ENR 5.1. Activation of areas subject to intermittent activity is notified well in advance by NOTAM, giving reference to the area only by its identification.

3.10 4D/15 service is provided to the following category of aircraft:

a. Aircraft operating within areas of Singapore FIR where radar services is provided by ATC;
b. ADS-B equipped aircraft operating in ADS-B airspace; and
c. ADS-C equipped aircraft logged on to WSJC on routes providing ADS/CPDLC service.

3.3.4 CO-ORDINATION BETWEEN THE OPERATOR AND ATS

4.1 Co-ordination between the operator and air traffic services is effected in accordance with Chapter 2, paragraph 2.15 of ICAO Annex 11 - Air Traffic Services and Chapter II, paragraphs 11.2.1.1.4 and 11.2.1.1.5 ICAO Doc 4444 - Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM).

3.3.5 MINIMUM FLIGHT ALTITUDE

5.1 The minimum flight altitudes on the ATS routes listed in section ENR 3, have been determined to ensure at least 1,000ft (300m) vertical clearance above the highest known obstacle within the lateral limits of the route within Singapore FIR and the adjacent areas of adjoining FIRs.

3.3.6 ATS UNITS ADDRESS LIST

Unit Name	*Postal Address*	*Telephone Nr*	*Telefax Nr*	*Telex Nr*	*AFS Address*
1	2	3	4	5	6
SINGAPORE ACC / APP	Singapore Air Traffic Control Centre (SATCC) 60, Biggin Hill Road Singapore 509950	(65) 65412668 (65) 65412672	(65) 65456252	-	WSJCZQZX
SINGAPORE TOWER	Singapore Changi Control Tower Civil Aviation Authority of Singapore P.O Box 1, Singapore Changi Airport Singapore 918141	(65) 65956057 (65) 65412410 (65) 65412416	(65) 65456224	-	Nil
SELETAR TOWER	Seletar Control Tower Civil Aviation Authority of Singapore Seletar Airport Building 1007, West Camp Road Singapore 797794	(65) 64812893	(65) 64813510	-	WSSLZTZX

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GEN 3.4 COMMUNICATION SERVICES

3.4.1 RESPONSIBLE SERVICE

1.1 The Civil Aviation Authority of Singapore (CAAS) is responsible for the provision of telecommunication and navigation facility services in Singapore.

1.2 Enquiries, suggestions or complaints regarding any telecommunication and navigation facility services should be referred to the Director-General of Civil Aviation.

Post:
Director-General of Civil Aviation
Civil Aviation Authority of Singapore
Singapore Changi Airport
P. O. Box 1
Singapore 918141

Tel: (65) 65421122
Fax: (65) 65421231
AFS: WSSSYAYX

1.3 The service is provided in accordance with the provisions contained in the following ICAO documents:

Annex 10 – *Aeronautical Telecommunications*
Doc 8400 – *Procedures for Air Navigation Services - ICAO Abbreviations and Codes (PANS-ABC)*
Doc 8585 – *Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services*
Doc 7030 – *Regional Supplementary Procedures*
Doc 7910 – *Location Indicators*
Doc 9880 - Manual on Detailed Technical Specifications for the Aeronautical Telecommunications Network (ATN) using ISO / OSI standards and protocols

1.4 Differences to these provisions are detailed in subsection GEN 1.7.

3.4.2 AREA OF RESPONSIBILITY

2.1 Communication services are provided for the entire SINGAPORE FIR.

3.4.3 TYPES OF SERVICE

3.1 Radio navigation services

3.1.1 The following types of radio aids to navigation are available:

LF/MF non-directional beacon (NDB)
Instrument landing system (ILS)
Doppler VHF omni-directional radio range (DVOR)
Distance measuring equipment (DME)
Long range primary and secondary surveillance radar
Primary and secondary approach radar
Airport surface detection equipment (ASDE)

3.2 Voice/data link services

3.2.1 *Voice service*

The aeronautical stations maintain a continuous watch on their stated frequencies during the published hours of service unless otherwise notified.

An aircraft should normally communicate with the air-ground control radio station that exercises control in the area in which the aircraft is flying. Aircraft should maintain a continuous watch on the appropriate frequency of the control station and should not abandon watch, except in an emergency, without informing the control radio station.

3.2.2 *Enroute Communications Organisation*

a. The radio frequencies for enroute communications are listed in subsection ENR 2.1

b. The Singapore HF network provides an umbrella communication coverage for the FIR and may be contacted if communication cannot be maintained on the primary channel.

c. Aircraft approaching or departing from an airport is required to communicate with that airport on the appropriate surface movement, tower or approach control frequency.

d. ADS-C and / or CPDLC services are available to suitably equipped aircraft operating outside radar cover and not in ADS-B exclusive airspace within the Singapore FIR. The hours when ADS-C and CPDLC services are available and the logon requirements are listed in ENR 2.1. Full details of the services are published in ENR 1.1 paragraphs 8.1 to 8.7.

3.2.3 Data link Service

The messages to be transmitted over the Aeronautical Fixed Service (AFS) are accepted only if:

a. the messages satisfy the requirements of ICAO Annex 10, Volume II, Chapter 3, paragraph 3.3;

b. the messages are prepared in the form specified in ICAO Annex 10;

c. the text of an individual message does not exceed 1800 characters.

3.2.4 General Aircraft Operating Agency Messages

General aircraft operating agency messages (with priority indicator “KK”) are only accepted for transmission to countries which have agreed to accept Class B2 traffic. Details of telecommunication charges for Class B2 traffic to countries with which Singapore has agreement for handling of such traffic are given below:

List of States/Regions to which Class B2 traffic will be accepted (rate of charge will be S$0.30 per word):

Australia, Brunei, Hong Kong, Indonesia (AFS stations), Kampuchea Democratic, Malaysia (Peninsular Malaysia, Sabah and Sarawak), Myanmar, Netherlands, New Zealand, Philippines (Manila), Singapore, Taiwan, Thailand and Vietnam.

3.3 Broadcasting service

3.3.1 The following broadcasts are available for the use of aircraft in flight:

a. HF RTF Volmet Broadcasts (page GEN 3.5-7 refers)

b. VHF ATIS Broadcasts (page GEN 3.4-3 refers)

COMPUTERISED ATIS BROADCASTS			
Station	*Callsign Identification*	*Frequency MHz*	*Hours UTC*
1	2	3	4
SINGAPORE / Singapore Changi	Changi Airport Departure Information	128.6	H24 (broadcasting with half hourly updated MET INFO)
	Changi Airport Arrival Information	128.025	
SINGAPORE/ Seletar	Seletar Airport Information	128.425	H24 (broadcasting with hourly updated MET INFO)
Remarks			
Alphabetical Reference All ATIS broadcasts will include Alphabetical Reference for identification in the ATIS message. **Updating of Data** H + 00 to H + 10 and H + 30 to H + 40. **Range** 100NM **Height** A110 **Power** 50W **Note to D-ATIS users** Pilots are advised to use AEEC 623 format with Cyclic Redundancy Check (CRC) for D-ATIS service to ensure data integrity. For aircraft formats without CRC (e.g. AEEC 620 format or AEEC 623 format without CRC), pilots are advised to verify the D-ATIS message received with the voice broadcasted ATIS message or to use only voice broadcasted ATIS service.			

ATIS BROADCASTS			
Station	*Callsign Identification*	*Freq MHz*	*Hours UTC*
SINGAPORE/ Paya Lebar	Paya Lebar Information	148.90	Sun-Mon to Thu-Fri between 2300-1100; Fri-Sat between 2300-0500. During public holidays and outside the above times prior permission required from RSAF HQ via Paya Lebar Ops.
SINGAPORE/ Tengah	Tengah Information	142.55	Sun-Mon to Thu-Fri between 2300-1100; Fri-Sat between 2300-0500. During public holidays and outside the above times prior permission required from RSAF HQ via Tengah Ops.
SINGAPORE/ Sembawang	Sembawang Information	149.25	Sun-Mon to Thu-Fri between 2300-1100; Fri-Sat between 2300-0500. During public holidays and outside the above times prior permission required from RSAF HQ via Sembawang Ops.

3.4 Language Used

The language used is English.

3.5 Obtaining Detailed Information

3.5.1 Details of the various facilities available for the en-route traffic can be found in section ENR 4.

3.5.2 Details of the facilities available at the individual aerodromes can be found in the relevant sections of AD. In cases where a facility is serving both the en-route traffic and the aerodromes, details are given in the relevant sections of ENR and AD.

3.4.4 REQUIREMENTS AND CONDITIONS

4.1 The requirements of the Civil Aviation Authority of Singapore and the general conditions under which the communication services are available for international use, as well as the requirements for the carriage of radio equipment, are contained in the Air Navigation Order of Singapore.

3.4.5 MISCELLANEOUS

NIL

GEN 3.5 METEOROLOGICAL SERVICES

3.5.1 RESPONSIBLE SERVICE

1.1 The meteorological services for civil aviation are provided by the Meteorological Service Singapore of the National Environment Agency.

Post:
THE DIRECTOR-GENERAL
Meteorological Service Singapore
Singapore Changi Airport,
P.O. Box 8
SINGAPORE 918141
Tel: (65) 65457190(HQ)
(65) 65425059 / (65) 65422837 (MET Office)
Fax: (65) 65457192 (HQ)
(65) 65425026 (MET Office)
AFS: WSSSYMYX
URL: www.weather.gov.sg

1.2 The service is provided in accordance with the provisions contained in the following ICAO documents:

Annex 3 – *Meteorological Service for International Air Navigation*
Doc 7030 – *Regional Supplementary Procedures Part 3 - Meteorology*

1.3 Differences to these provisions are detailed in subsection GEN 1.7.

3.5.2 AREA OF RESPONSIBILITY

2.1 Area meteorological watch is provided for the Singapore FIR.

3.5.3 METEOROLOGICAL OBSERVATIONS AND REPORTS

TABLE GEN 3.5.3 Meteorological Observations and Reports

Name of Station/ Location Indicator	*Type & Frequency of Observation/ Automatic Observing Equipment*	*Types of MET Reports & Supplementary Information included*	*Observation System & Sites (s)*	*Hours of Operation*	*Climatological Information*
1	2	3	4	5	6
SINGAPORE/ Singapore Changi WSSS	Half hourly plus special observations	MET REPORT Special Report METAR SPECI TREND WS	a. Ultrasonic wind sensors at ends and middle of RWY 02L/20R (Runway 1) and RWY 02R/20L (Runway 3). Surface wind report in METAR and SPECI is taken from the wind sensor at the southern end of RWY 02L (with the sensor at the northern end of the runway 02R/20L as backup). b. Windsocks at ends of all runways. c. Transmissometers at both ends and in the middle of all runways. d. Low level wind shear observations made continuously by system of 15 surface wind sensors, located in the airport and its vicinity. e. Integrated and combination of MET Doppler X, C and S band weather radars and two wind lidars for detecting wind shear up to 20km and monitoring storms up to 480km.	H24	Climatological Summaries available at Meteorological Service Singapore of the National Environment Agency.
SINGAPORE/ Seletar WSSL	Hourly plus special observations	MET REPORT Special Report METAR SPECI WS	a. Ultrasonic wind sensors at the ends of runway (surface wind report in METAR and SPECI is taken from measurements of the ultrasonic wind sensor at RWY 03). b. Windsocks at both ends of RWY 03 and 21. c. Transmissometers at both ends of RWY 03 and 21. d. Low level wind shear observations made continuously by system of 6 surface wind sensors, located in its vicinity. e. Integrated and combination of MET Doppler C and S band weather radars for detecting wind shear within 20km and monitoring storms up to 480km.	H24	NIL
SINGAPORE/ Paya Lebar WSAP	Hourly plus special observations	METAR SPECI	a. Cup anemometers and wind vanes at the southern part of the runway is used for wind report in METAR and SPECI. If the sensor in the southern part of the runway is down, the sensor in the northern part of the runway will be used.	H24	NIL

3.5.4 TYPES OF SERVICES

4.1 The Meteorological Office and Meteorological Watch Office at Singapore Changi Airport operate H24 and provide the following services for civil aviation:

a. Full meteorological documentation and briefing for current operational planning for all flights operating out of Singapore Changi Airport;

b. Area meteorological watch over the Singapore FIR with the supply of meteorological information including SIGMET information to aircraft in flight through the Singapore ATS radio channels (see subsection AD 2.11);

c. HF RTF VOLMET broadcasts of meteorological information (see page GEN 3.5-7), Aviation weather report with trend statement, strong low level vertical wind shear report and aerodrome warnings are also included in VHF ATIS broadcasts for Singapore Changi Airport (see page GEN 3.4-3);

d. Meteorological information for ATS

4.2 Weather briefing by a forecaster is available H24 to qualified flight operations personnel at the Meteorological Office at Singapore Changi Airport or via telephone at (65)65425059 / (65)65422837. Weather information is available online via our Aviation Weather Services Portal at URL http://www.weather.gov.sg/ (see paragraph 9.2 for further details).

4.3 The Meteorological Office at Seletar Aerodrome operates H24 and provides meteorological documentation without briefing for international and general aviation flights operating out of Seletar Aerodrome.

4.4 Details of documentation supplied for each flight are determined by arrangement between the operator and the Meteorological Office. In general, the pilot-in-command is provided with documentation comprising one or more fixed-time prognostic streamline/istotach/spot temperature charts of standard isobaric surfaces appropriate to the cruising level (ICAO model IS), one of fixed-time prognostic significant weather chart code form and appropriate aerodrome forecasts in TAF code form.

4.5 Routine aerodrome forecasts received from other Meteorological Offices are normally included in meteorological documentation without modification. When a required aerodrome forecast is not received, a provisional forecast may be issued by the Meteorological Office providing the documentation.

4.6 After documentation has been issued and until take-off (i.e. the latest ETD notified to the Meteorological Office), the Meteorological Office at Singapore Changi Airport makes available amendments to the documentation. It is the responsibility of the operator's local representative or the pilot-in-command to obtain any pre-departure amendment(s) from the Meteorological Office at Singapore Changi Airport. The pilot-in-command may request pre-departure amendment(s) through the Singapore Changi Airport Control Tower.

4.7 Climatological Summaries for Singapore Changi (WSSS-48698) are available from the Meteorological Service Singapore.

4.8 OBSERVING SYSTEMS AND OPERATING PROCEDURES AT SINGAPORE CHANGI AIRPORT AND SELETAR AERODROME

4.8.1 SINGAPORE CHANGI AIRPORT

4.8.1.1 RWY 02L/20R (Runway 1)

4.8.1.1.1 Surface wind is measured by three ultrasonic wind sensors located as follows:

	DIST FROM END OF RWY	DIST FROM RWY CENTRELINE
(i) One set at	406 metres north of RWY 02L	120 metres
(ii) One set at	middle of runway	121 metres
(iii) One set at	381 metres south of RWY 20R	121 metres

4.8.1.1.2 RVR observations are made by means of three sets of transmissometers, located as follows:

	DIST FROM END OF RWY	DIST FROM RWY CENTRELINE
1st set	446 metres north of RWY 02L	120 metres
2nd set	Middle of runway	121 metres
3rd set	421 metres south of RWY 20R	121 metres

4.8.1.1.3 RVR is reported in steps of 25 metres between 0 and 400 metres, 50 metres between 400 and 800 metres and 100 metres between 800 and 1,500 metres.

4.8.1.1.4 Surface wind report in METAR and SPECI is taken from the wind sensor at the southern end of RWY 02L (with the sensor at the northern end of the runway 02R/20L as backup).

4.8.1.2 RWY 02C/20C (Runway 2)

4.8.1.2.1 Surface wind is measured by three cup anemometers and wind vanes located as follows:

	DIST FROM END OF RWY	DIST FROM RWY CENTRELINE
(i) One set at	450 metres north of RWY 02C	130 metres
(ii) One set at	middle of runway	130 metres
(iii) One set at	450 metres south of RWY 20C	130 metres

4.8.1.2.2 RVR observations are made by means of three sets of transmissometers, located as follows:

	DIST FROM END OF RWY	DIST FROM RWY CENTRELINE
1st set	400 metres north of RWY 02C	110 metres
2nd set	Middle of runway	110 metres
3rd set	400 metres south of RWY 20C	110 metres

4.8.1.2.3 RVR is reported in steps of 25 metres between 0 and 400 metres, 50 metres between 400 and 800 metres and 100 metres between 800 and 1,500 metres.

4.8.1.3 RWY 02R/20L (Runway 3)

4.8.1.3.1 Surface wind is measured by three ultrasonic wind sensors located as follows:

	DIST FROM THRESHOLD	DIST FROM RWY CENTRELINE
(i) One set at	428 metres north of RWY 02R	132 metres
(ii) One set at	Middle of runway	121 metres
(iii) One set at	435 metres south of RWY 20L	132 metres

4.8.1.3.2 RVR observations are made by means of three sets of transmissometers, located as follows:

	DIST FROM THRESHOLD	DIST FROM RWY CENTRELINE
1st Set	421 metres north of RWY 02R	120 metres
2nd Set	Middle of runway	121 metres
3rd Set	425 metres south of RWY 20L	120 metres

4.8.1.3.3 RVR is reported in steps of 25 metres between 0 and 400 metres, 50 metres between 400 and 800 metres and 100 metres between 800 and 1500 metres.

*4.8.1.4 **Wind Shear Observations (Singapore Changi Airport)***

4.8.1.4.1 Horizontal low level wind shear observations are measured continuously by a system consisting of 15 surface wind sensors, MET Doppler X, S and C band weather radars and two wind lidars located in Singapore Changi airport and its vicinity.

4.8.1.4.2 ATC will pass to all aircraft taking off or landing for the next 1/2 hour from the time of report whenever microburst or wind shear of intensity 15 knots or greater is observed/reported.

4.8.1.4.3 The phraseology used by ATC to warn pilots of the presence of wind shear of intensity between 15 and 30 knots is:

> "..... (callsign) WIND SHEAR WARNING
> STRONG LOW LEVEL WIND SHEAR OBSERVED IN THE VICINITY OF
> CHANGI AIRPORT AT ..... (time)"

4.8.1.4.4 The phraseology used by ATC to warn pilots of the presence of wind shear of intensity greater than 30 knots is:

".....(callsign) WIND SHEAR WARNING
SEVERE LOW LEVEL WIND SHEAR OBSERVED IN THE VICINITY OF
CHANGI AIRPORT AT .....(time)"

4.8.1.4.5 The presence of wind shear will also be broadcast in the ATIS for the next half an hour.

4.8.2 SELETAR AERODROME

4.8.2.1 Surface wind is measured by ultrasonic wind sensors at ends of runway. Surface wind report in METAR and SPECI is taken from measurements of the ultrasonic wind sensor at RWY 03.

4.8.2.2 Wind Shear Observations (Seletar Aerodrome)

4.8.2.2.1 ATC will pass to all aircraft taking off or landing for the next 1/2 hour from the time of report whenever microburst or windshear of intensity 15 knots or greater is observed/reported.

4.8.2.2.2 The phraseology used by ATC to warn pilots of the presence of wind shear of intensity between 15 and 30 knots is:

".....(callsign) WIND SHEAR WARNING
STRONG LOW LEVEL WIND SHEAR OBSERVED IN THE VICINITY OF
SELETAR AIRPORT AT .....(time)"

4.8.2.2.3 The phraseology used by ATC to warn pilots of the presence of wind shear of intensity greater than 30 knots is:

".....(callsign) WIND SHEAR WARNING
SEVERE LOW LEVEL WIND SHEAR OBSERVED IN THE VICINITY OF
SELETAR AIRPORT AT .....(time)"

3.5.5 NOTIFICATION REQUIRED FROM OPERATORS

5.1 It is the responsibility of the operator or the pilot-in-command to notify the meteorological office of any flight for which meteorological documentation is required (ref. ICAO Annex 3, paragraph 2.3). As much prior notice as possible should be given, and at least one hour notice at Singapore Changi Airport and two hours at Seletar Aerodrome would be required for nonscheduled flights.

3.5.6 AIRCRAFT REPORTS REQUIRED FROM OPERATORS

6.1 AIREP

6.1.1 Routine aircraft meteorological observations shall be made and the reports transmitted at ATS/ MET reporting points listed on page GEN 3.5-6 and as indicated in subsection ENR 3.1 - ATS ROUTES.

6.1.2 Special aircraft observations and aircraft observations during climb-out and approach shall be made and the reports transmitted as necessary.

6.1.3 Special aircraft observations of pre-eruption volcanic activity, volcanic eruption or volcanic ash cloud shall be recorded on the special Air-Report of Volcanic Activity form which can be downloaded from URL https://aim-sg.caas.gov.sg. A copy of the completed Volcanic Activity Report shall be delivered by the operator or a flight crew member, without delay, either personally or by telephone facsimile (TEL: 65425026 or 65429978) to the Meteorological Office, Singapore Changi Airport.

6.2 REPORTING OF LOW LEVEL WIND SHEAR

6.2.1 Pilots encountering wind shear shall report to ATC as soon as possible.

6.2.2 When reporting wind shear on radiotelephony, the information should be transmitted in this order:

a. Aircraft callsign;
b. WIND SHEAR report;
c. Time (of wind shear occurrence);
d. Position (of wind shear);
e. Intensity (moderate, strong or severe);
f. Average height of wind shear layer.

6.2.3 On receipt of a wind shear report from a pilot, ATC will pass it to other aircraft in the vicinity. The following phraseology will be used:

"WIND SHEAR WARNING
ARRIVING (or DEPARTING) ..... (type of aircraft)
REPORTED ..... (moderate, strong, severe)
WIND SHEAR IN APPROACH (or DEPARTURE)
RUNWAY ..... (number) AT ..... (time)
HEIGHT OF WIND SHEAR LAYER ..... (feet)"

6.2.4 The presence of wind shear as reported by a pilot will also be broadcast in the ATIS for the next half an hour unless subsequent reports indicate that wind shear no longer exists.

6.3 AIRCRAFT ATS/MET REPORTING POINTS IN THE SINGAPORE FIR

6.3.1 Aircraft Meteorological Observations shall be made in relation to and transmitted in flight by all aircraft at the following selected Air Traffic Services position reporting points within the Singapore FIR except when:

a. The flight duration is less than 2 hours, or
b. The altitude of the flight path is less than 5 000ft, or
c. The aircraft is less than 1 hour's flying time from the next intended point of landing.

6.3.2 The aircraft ATS/MET reporting points listed below are indicated in page ENR 3.1/ATS Chart.

6.3.3 The position of the mean wind or spot wind, to the nearest whole degree latitude and longitude, shall be recorded and transmitted in flight.

ATS ROUTE	AIRCRAFT ATS/MET REPORTING POINTS IN THE SINGAPORE FIR
G580	NIMIX
L642	ESPOB
L644	KIKOR
M635	SURGA
M758 / M767	TERIX
M767	TEGID
M768 / N884	LAGOT
M774	KADAR
L504	BAVUS
N875	ARUPA
N892	MELAS

3.5.7 VOLMET SERVICE

TABLE GEN 3.5.7 VOLMET SERVICE

Name of station	*CALLSIGN IDENT (EM)*	*Frequency*	*Broadcast period*	*HR of SER*	*Aerodromes included*	*Contents and format of REP and FCST*
1	2	3	4	5	6	7
SINGAPORE	SINGAPORE RADIO (A3J)	6676KHz (1230-2230) 11387KHz (2230-1230)	H + 20 to H + 25 and H + 50 to H + 55	H24	SINGAPORE (1) SINGAPORE (2) KUALA LUMPUR (3)(4) SUBANG AIRPORT (4) SOEKARNO-HATTA (3)(4) KUCHING (3)(4) BRUNEI (3)(4) KOTA KINABALU (3)(4) DEN PASAR (3) (4) PENANG (3)(4) SINGAPORE (5) KUALA LUMPUR (4)(8) SINGAPORE (1) SINGAPORE (6) KUALA LUMPUR (4)(7) SUBANG AIRPORT (4) SOEKARNO-HATTA (4)(7) KUCHING (4)(7) BRUNEI (4)(7) KOTA KINABALU (4)(7) DEN PASAR (4)(7) PENANG (4)(7) SINGAPORE (5) SOEKARNO HATTA (4)(8)	SIGMET METAR METAR METAR METAR METAR METAR METAR METAR METAR TAF TAF SIGMET METAR METAR METAR METAR METAR METAR METAR METAR METAR TAF TAF
	Plain Language EN. (1) SIGMET message or 'NIL' is transmitted. (2) Latest routine report H+00 including trend statement; repeated at end of broadcast, time permitting. (3) H+00 (or the previous H+30 report when the H+00 report is not available) including trend statement when appended. (4) As available. (5) Valid for 12 hours. (6) Latest routine report H+30 including trend statement; repeated at end of broadcast, time permitting. (7) H+30 (or the H+00 report when the H+30 report is not available) including trend statement when appended. (8) Valid for 30 hours.					
SINGAPORE	SINGAPORE VOLMET	D-VOLMET	as required	H24	SINGAPORE KUALA LUMPUR SOEKARNO-HATTA SINGAPORE KUALA LUMPUR SUBANG AIRPORT SOEKARNO-HATTA KUCHING BRUNEI KOTA KINABALU DEN PASAR PENANG SINGAPORE KUALA lUMPUR SOEKARNO-HATTA	SIGMET SIGMET SIGMET METAR METAR METAR METAR METAR METAR METAR METAR METAR TAF TAF TAF
	Data Link VOLMET (D-VOLMET) service available H24. AP Ident WSSS. Messages comply with ARINC 623 standards.					

3.5.8 SIGMET SERVICE

TABLE GEN 3.5.8 SIGMET SERVICE						
Name of MWO/ location indicators	*Hours of Operation*	*FIR or CTA served*	*Type of SIGMET / validity*	*Specific procedures*	*ATS unit served*	*Additional Information*
1	2	3	4	5	6	7
SINGAPORE	H24	Singapore FIR	SIGMET / 4-6HR	Nil	Singapore ACC	Nil

8.1 General

8.1.1 For the safety of air traffic, the Meteorological Authority maintains an area meteorological watch and warning service. This service consists partly of a continuous weather watch within the lower and upper FIR and issuance of appropriate information (SIGMET) by Meteorological Watch Office and partly of the issuing of warnings for Changi Airport.

8.2 Area Meteorological Watch Service

8.2.1 The area meteorological watch service is performed by the Meteorological Service Singapore.

8.2.2 The Meteorological Service Singapore issues information in the form of SIGMET messages about the occurrence or expected occurrence of one or several of the following significant meteorological phenomena:

- thunderstorms *
- severe turbulence
- severe icing
- severe mountain waves
- heavy sand storm/dust storm
- volcanic ash cloud
- tropical cyclone

* Area of widespread cumulonimbus clouds or cumulonimbus along a line (squall line) with little or no space between individual clouds, or cumulonimbus embedded in cloud layers or obscured by haze.

8.2.3 The SIGMETs are issued in abbreviated plain language using ICAO abbreviations and are respectively numbered consecutively for each day commencing at 0001. Their period of validity is generally not more than 4 hours and less than 6 hours from the time of transmission.

8.2.4 SIGMETs issued by the Meteorological Service Singapore are transmitted to adjacent MWOs in accordance with regional air navigation agreements and inserted in the MET page of LORADS (Long Range Radar and Display System) for use by the Singapore Air Traffic Control Centre.

8.3 Warning Service

8.3.1 Aerodrome warnings for Changi Airport are issued by Meteorological Service Singapore if one or several of the following phenomena are expected to occur at the airport:

- squall
- thunderstorm
- hail
- tornado
- horizontal visibility and/or RVR of 800 metres or less
- mean surface wind speed of 25 knots or more
- wind gusts of 35 knots or more
- cloud of BKN or OVC amount with base 500 ft or less

8.3.2 The warnings are:

- for the protection of parked and moored aircraft,
- for the protection of equipment at the airport, and
- for the safety of arriving and departing aircraft.

8.3.3 The warnings are issued in English and are distributed in accordance with a distribution list which has to be agreed upon locally. In order to guarantee rapid dissemination of the warnings, the distribution list to be used shall, as far as possible, contain only one recipient for an interested group; this recipient will be responsible for the further dissemination of the warning within the group.

8.3.4 SIGMET is disseminated by directed transmissions to aircraft through general calls by the Area Control Centre, Singapore for Singapore FIR.

3.5.9 OTHER AUTOMATED METEOROLOGICAL SERVICES

9.1 Besides VOLMET and ATIS broadcasts, airline operators can obtain access to various operational meteorological information through our Aviation Weather Services Portal and automated faxing service.

9.2 The Aviation Weather Services Portal is free to airlines and flight operators with flights departing from Singapore Changi or Seletar Airports. It is accessible via the "Login" link at URL http://www.weather.gov.sg/. A registered user account is required for the access. For registration, please email to MSS_Aviation_Enquiries@nea.gov.sg

TABLE 3.5.9 AVIATION WEATHER SERVICES PORTAL

Service Name	*Information Available*	*Area, Route and Aerodrome Coverage*	*Telephone and Telefax numbers Remarks*
1	2	3	4
Aviation Weather Services Portal	METAR, SPECI, TAF, AD Warning, Wind Shear Warning, SIGMET, Tropical Cyclone Warnings/Advisories, Volcanic Ash, Radioactive Fallout and Haze Information Advisories	All METAR, SPECI, TAF, SIGMET, Tropical Cyclone Warnings/Advisories, Volcanic Ash, Radioactive Fallout Advisories received from designated major centres around the world. AD Warning and Wind Shear Warning for WSSS and WSSL. Haze Information/Advisories for Southeast Asia Region	
	Latest Himawari-8 composite and true colour satellite images every 20 minutes	Southeast Asia and full globe	
	Latest Himawari-8 IR and hourly cloud top height satellite images every 10-minutes	Asia Pacific	
	Latest images from other satellites such as EUMETSAT, NOAA and Feng-Yun weather satellites	Europe, US Polar, America and Asia Pacific	
	Low-to-Mid-Level Significant Weather charts	Low-Medium level (Surface-FL250) covering southern ASEAN region	
	WAFS (World Area Forecast System) SIGWX charts	Medium-High level covering Asia, Middle East, Africa, America and Europe	
	Prognostic Wind-Temperature charts	Standard levels covering Europe, America, Asia-Pacific regions and the southern ASEAN region.	
	Weather Radar images	Latest Singapore Changi Airport 70km, 240km and 480km range rain intensity radar plots.	
	WAFC Washington model gridded data	Full globe forecast of winds, temperature, turbulence potential, icing potential and horizontal extent of cumulonimbus clouds	
	Take-off conditions	Singapore Changi Airport	
	Climb and Descent winds forecast	Selected airports over Asia Pacific, Europe, Africa and North America	

Note: Details of meteorological briefing at aerodromes are given in the individual aerodrome sections, i.e. AD 2

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GEN 3.6 SEARCH AND RESCUE

3.6.1 RESPONSIBLE SERVICE(S)

1.1 The search and rescue service in Singapore is provided by the Civil Aviation Authority of Singapore, in collaboration with the Ministry of Defence, Meteorological Service and Maritime and Port Authority of Singapore, which have the responsibility for making the necessary facilities available. The postal and telegraphic addresses of the Civil Aviation Authority of Singapore are given on page GEN 1.1-1.

Post:
RESCUE COORDINATION CENTRE (RCC),
60 Biggin Hill Road,
Singapore 509950.
Tel: (65) 65425024 - Singapore RCC
(65) 65412668 or (65) 65412672 - Singapore ACC
Fax: (65) 65422548
AFS: WSJCZGZX or WSJCYCYX

1.2 The service is provided in accordance with the provisions contained in the following ICAO documents and local procedures:

Annex 12 – Search and Rescue
Annex 13 – Aircraft Accident and Incident Investigation
Doc 7030 – Regional Supplementary Procedures for Alerting and SAR services applicable in the SEA Region.
Doc 9731 – International Aeronautical and Maritime Search and Rescue Manuals Volume 1, 2 and 3 Singapore local procedures

3.6.2 AREA OF RESPONSIBILITY

2.1 The search and rescue service is responsible for SAR operations within Singapore FIR.

3.6.3 TYPES OF SERVICES

3.1 Details of the rescue coordination centre and related supporting rescue units are given in the table on page GEN 3.6-3 titled - Search and Rescue Units. In addition, various elements of the Singapore Police Force, Maritime and Port Authority of Singapore and the Merchant Marine are available for search and rescue missions, when required. The aeronautical, maritime and public telecommunication services are available to the search and rescue organisation.

3.2 All search aircraft are land planes and carry survival equipment, capable of being dropped, consisting of inflatable rubber dinghies equipped with general purpose first aid supplies, emergency rations and survival radio equipment. Aircraft are equipped to communicate on 121.5MHz, 123.1MHz, 243.0MHz, 282.8MHz, 2182KHz, 3023KHz and 5680KHz and are also equipped with VHF/UHF direction finder. Marine craft are equipped to communicate on 123.1MHz, 282.8MHz, 2182KHz, 3023KHz and 5680KHz and are equipped with radar.

3.3 The Singapore RCC provides distress alert detection of Emergency Locator Transmitters (ELTs), Emergency Position Indicator Radio Beacons (EPIRBs) and Personal Locator Beacons (PLBs) using the Cospas-Sarsat Satellite Aided Tracking System. This system is able to detect 406.0MHz beacons globally and the information is shared with the other users of the system. A database of the Singapore registered aviation beacons is kept at the RCC and the Maritime beacons are in the Maritime and Port Authority database.

3.4 Users of 406.0MHz beacons that are coupled with the 121.5MHz frequency will be able to use the 121.5MHz for homing purposes only by search units.

3.6.4 SAR AGREEMENTS

4.1 SAR agreements have been concluded between Civil Aviation Authority of Singapore and the SAR authorities or agencies of Indonesia, Malaysia, Philippines, Thailand and Vietnam. These agreements provide for mutual assistance in the conduct of SAR operations within each others' SAR Regions (SRR) and approval for entry of SAR aircraft, vessels and personnel of one State into the SRR of another State, with prior permission, for the purpose of conducting SAR operations or rendering SAR assistance and for direct communications between the SAR authorities or agencies on all common SAR matters.

4.2 Requests for the entry of aircraft, equipment and personnel from other States to engage in search for aircraft in distress or to rescue survivors of aircraft accidents should be transmitted to the Rescue Coordination Centre. Instructions as to the control which will be exercised on entry of such aircraft and/ or personnel will be given by the Rescue Coordination Centre in accordance with the standing plan for the conduct of search and rescue in the area.

4.3 Civil Aviation Authority of Singapore has also concluded an SAR agreement with the SAR Coordinator Pacific RCC, United States Air Force (USAF). The agreement provides for all possible assistance to assist RCC Singapore in its response to United States (US) military SAR incidents within the Singapore SRR. It will also provide US assistance to RCC Singapore in its prosecution of civil SAR incidents when requested.

3.6.5 CONDITIONS OF AVAILABILITY

5.1 The SAR service and facilities in Singapore are available without charge to neighbouring states on opportunity basis and upon request to the Rescue Coordination Centre Singapore or the Singapore Air Traffic Control Centre. All facilities are specialised in SAR techniques and functions.

3.6.6 PROCEDURES AND SIGNALS USED

6.1 Procedures and signals used by aircraft

6.1.1 Procedures for pilots-in-command observing an accident or intercepting a distress call and/or message are outlined in ICAO Annex 12, Chapter 5.

6.1.2 Ditching reports, requested by aircraft about to ditch, are given in accordance with the provisions in *Procedures for Air Navigation Services, Meteorology (Doc 7605-MET/526)*

6.2 Communications

6.2.1 Transmission and reception of distress messages within the Singapore Search and Rescue Region are handled in accordance with ICAO Annex 10, Volume II, Chapter 5, para 5.3.

6.2.2 For communications during search and rescue operations, the codes and abbreviations published in *ICAO Abbreviations and Codes (Doc 8400)* are used.

6.2.3 Information concerning positions, callsigns, frequencies and hours of operation of Singapore aeronautical stations is published in sections AD 2 and ENR 2.

6.2.4 The frequency 121.5MHz is guarded continuously by the Control Tower, Singapore Changi Airport, the Singapore Air Traffic Control Centre and Control Tower, Seletar Aerodrome. The Coast Radio Station in Singapore guards the international distress frequencies.

6.2.5 Search and Rescue aircraft conducting Search and Rescue Operations will use the following callsigns:

a. Fixed Wing ‘Rescue (plus number 61 to 85)’
b. Rotary Wing ‘Rescue (plus number 10 to 19)’

6.2.6 Rescue vessels / boats conducting Search and Rescue Operations will use the following callsigns:

a. ‘Rescue Vessel (plus number 21 to 31)’
b. ‘Rescue Boat (plus number or callsign)’

6.3 Search and Rescue Signals

6.3.1 The search and rescue signals to be used are those prescribed in ICAO Annex 12, Chapter 5, para 5.10.

6.3.2 Ground/Air Visual Signal Codes for use by Survivors

ENR 1.6 ATC SURVEILLANCE SERVICES AND PROCEDURES

1 PRIMARY RADAR

1.1 DESCRIPTION OF PRIMARY RADAR SERVICES AND PROCEDURES

1.1.1 Radar control service is provided to identified aircraft operating in controlled airspace. The approximate area within which radar services are provided is shown in Table A on page ENR 1.6-7. Positive traffic separation service is provided. This involves monitoring the navigation of, or issuing instructions for, the navigation of an aircraft, to ensure that radar separation standards are maintained between identified aircraft and other aircraft in controlled airspace.

1.1.2 Radar advisory service is provided to aircraft operating outside controlled airspace. This service may be provided to identified aircraft subject to radar coverage and workload and involves the provision of position information to aircraft to assist in its navigation, warnings of other aircraft operating in its proximity and assistance to aircraft in an emergency. Advice and/or suggestion to pilots will be given. Aircraft receiving radar advisory service are not obliged to follow instructions given by ATC.

1.1.3 Radar control will be exercised outside controlled airspace only in respect of aircraft which are intending to enter or cross controlled airspace.

1.1.4 Singapore Radar Units will use the following callsigns when providing radar service:

a. Aircraft under Area Control (ACC) - Singapore Radar;

b. Aircraft under Approach Control (ACR)

i. Flow Control;
ii. Singapore Approach;
iii. Singapore Arrival.
(See Table A in page ENR 1.6-7)

1.1.5 The minimum horizontal radar separation are:

a. 7NM beyond 150NM from Singapore Changi Airport;
b. 5NM up to 150NM from Singapore Changi Airport.

← 1.1.6 Radar separation may be reduced to 3NM provided the following conditions exist:

a. Aircraft are under the Terminal Approach Control Radar Unit;
b. Aircraft are below FL245;
c. Aircraft are within 40NM of Singapore Changi Airport.

1.1.7 It is not possible to specify separation minima between identified aircraft and unknown traffic considered to constitute a hazard due to unpredictable manoeuvres of the latter. However, whenever practicable, the minimum radar separation shall be applied.

1.2 AIRCRAFT IDENTIFICATION PROCEDURES

1.2.1 Before providing a radar service aircraft will be identified by one of the following methods:

a. By a pilot report over a prescribed position displayed on the radar map or plotted on the radar map outlay;

b. By issuing instructions to a pilot to carry out a turn or turns or by observing a turn or turns reported by a pilot;

c. By observing and correlating the radar echo of a departing aircraft to a known airborne time;

d. By the use of SSR.

1.3 RADAR NAVIGATION

1.3.1 Whether or not radar control is being applied, navigation along the authorised flight routes is normally the responsibility of the pilot-in-command but, for a number of reasons, primarily the separation and expedition of traffic, the radar controller may require to establish positive control. Pilots will be advised when radar navigation of the aircraft is terminated whereupon pilots will resume their own navigation.

1.3.2 Position information will be given as follows:

a. A well-known geographical position;

b. Bearing and distance (using points of the compass) from a known position;

c. Magnetic heading (QDM) and distance to the appropriate reporting point or en-route navigational facility;

d. A distance to the runway touchdown point (as “track miles” to run).

1.4 WEATHER AVOIDANCE AND STORM WARNING RADAR

1.4.1 Modern ATC radar equipment are normally designed to suppress weather clutter and the radar controller may not always be aware of its presence. If, however, weather is observed the radar controller may pass this information to the pilot, if it appears likely to affect his flight.

1.4.2 When this service is provided to aircraft within controlled airspace, the pilot will be advised by the radar controller if the action will result in the aircraft leaving controlled airspace. The pilot will be responsible for deciding whether to accept a detour into uncontrolled airspace.

1.4.3 If an aircraft is equipped with storm warning radar and the pilot intends to detour a storm centre observed on his radar display, he should, when operating within controlled airspace, obtain clearance from the radar controller for his proposed action and, if leaving controlled airspace, request permission to rejoin. This is necessary to ensure that separation which the radar controller may be providing to other aircraft is not prejudiced. The pilot may request navigational assistance as necessary.

1.4.4 An aircraft flying in uncontrolled airspace under circumstances arising from paras 1.4.2 or 1.4.3 above will be provided with the following services.

1.4.5 When ATC initiates the diversion out of controlled airspace, as in para 1.4.2 above, the radar controller will provide avoiding action from unknown aircraft.

1.4.6 When the pilot initiates the weather detour, as in para 1.4.3 above, only advice on the position of unknown aircraft and the recommended action would be given e.g. “Unknown aircraft ten o’ clock, eight NM, crossing left to right. Advise turn right heading 090”.

1.5 MILITARY RADAR UNITS AUTHORISED TO PROVIDE RADAR CROSSING SERVICE

1.5.1 The Military Radar Units authorised to provide radar crossings of controlled areas (airways) by military aircraft are:

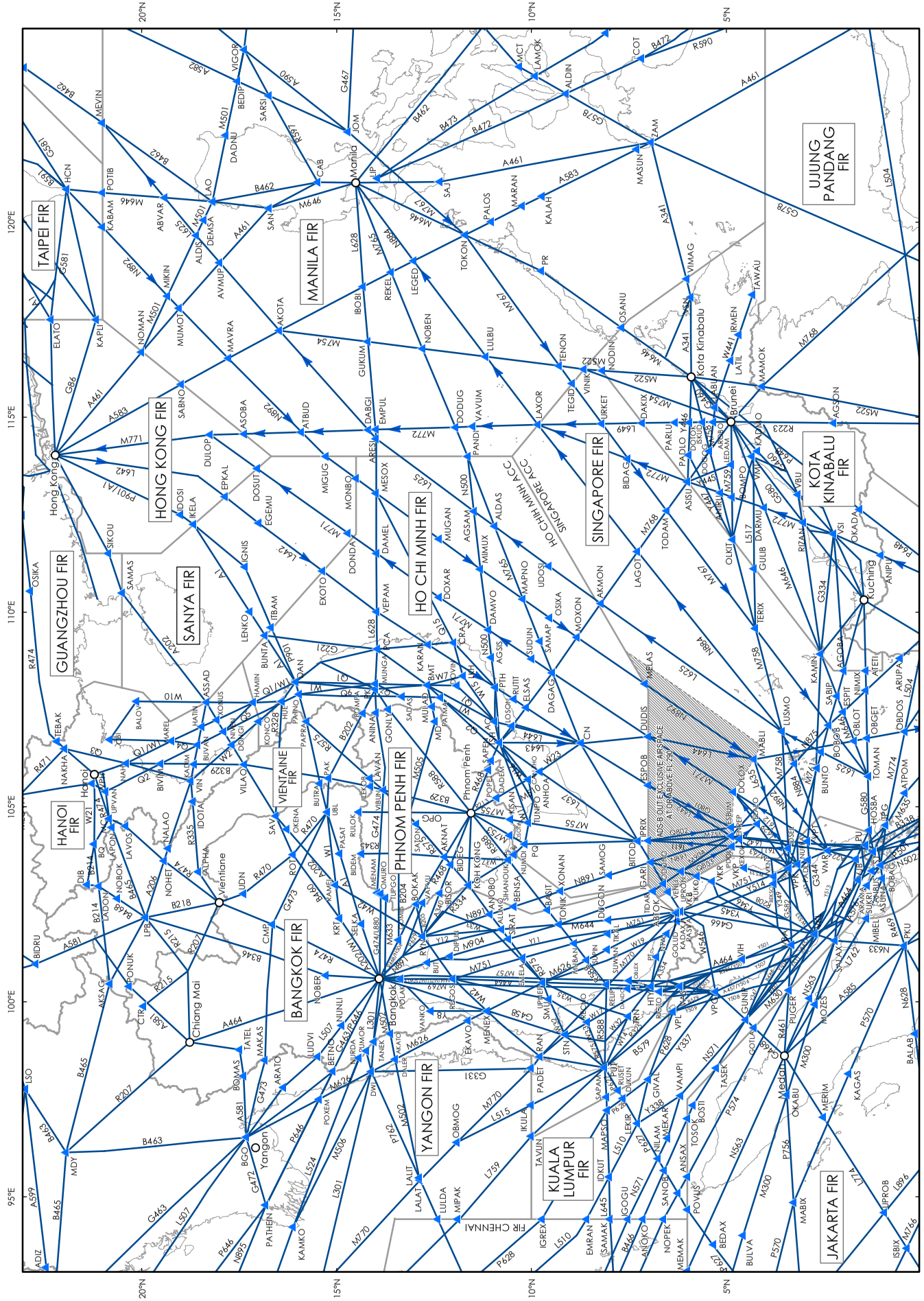
a. RSAF 201 Squadron (Air Defence Radar Unit-ADRU); and

b. RSAF 203 Squadron (Singapore Air Traffic Control Centre).

1.6 RADAR FAILURE

1.6.1 In the event of radar failure or loss of radar contact, instructions will be issued by the radar controller to restore standard longitudinal, lateral or vertical separation between those aircraft operating with radar separation. Instructions may also be given to aircraft to communicate on another ATC frequency.

ATS ROUTE STRUCTURE WITHIN SINGAPORE & ADJACENT FIRs



CHANGES : Reporting points PALOS, MARAN, KALAH and MASUN added on ATS Route A583.
Reporting points DEMSA and DADNU added on ATS Route M501.
Reporting point SKATE is replaced with VIGOR on ATS Route M501.
ATS Route R596 removed.

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ENROUTE CHART - ICAO

LEGEND

- Aerodrome
- Flight Information Region (FIR) — Name of FIR; Upper Limit; Lower Limit; Unit providing service — e.g. FIR SINGAPORE UNL GND/WATER ACC SINGAPORE
- Terminal Control Area (TMA) — Name of TMA; Airspace Classification; Upper Limit; Lower Limit; Radio Frequency (ies) — e.g. TMA KUCHING A FL 250 B 3 000ft C 134.5,120.2
- Control Zone (CTR) — Name of CTR; Airspace Classification; Upper Limit; Radio frequency (ies) — e.g. CTR KUCHING C 3,000ft 120.2
- ATS route — Route designator; Magnetic track; Distance in nautical miles; Minimum flight altitude (5)/flight level; Lower limit (5)/flight level; Required navigation performance — e.g. L642, 032°, 122, 7 000/FL 140, RNP 10, (7 000)/FL 140
- ATS route reporting point by-pass (No report is required on this route)
- Reporting Point (REP) — Compulsory; On Request
- ATS/MET reporting point (MRP) — Compulsory; On Request
- Restricted Airspace (P-Prohibited, R-Restricted, D-Danger) — Identification of area; Nationality letter; Vertical limits — e.g. WSD8, FL 400, WATER

Note : Restricted airspace outside Singapore FIR are not shown.

- Collocated VOR and DME navigation aids (VOR/DME) — Compass rose orientated on the chart to Magnetic North
- Identification for radio navigation aids (NAVAID) — Name; NAVAID, frequency, identification or call sign; Geographic at coordinates in WGS-84; Elevation of DME site (to the nearest 30m) — e.g. SINJON, DVOR/DME 113.5, 01°33'21"N 103°51'15"E, 60m

COP at mid-point between VOR are not shown

Area Minimum Altitude (AMA)

Each 2° quadrilateral contains an area minimum altitude (AMA) which represents the lowest altitude which may be used under current meteorological conditions (IMC). The AMA provides a minimum clearance of 1 000 feet (300m) above all terrains and obstacles in the quadrilateral. It is represented in thousands and hundreds of feet above mean sea level.

Example : 3 500 feet 35

A Airway in which Mach Number Technique and RNAV are applied (Refer to pages ENR 1.8-13 to 1.8-18)

B Inbound and Outbound flights exempted from reporting aircraft observations at these points.

WSJC/WMFC FIR BDRY REPORTING POINTS	
TAXUL	MANIM
03 50 35N	03 14 30N
103 40 37E	104 05 54E
BUVAL	KETOD
03 36 22N	03 10 42N
103 43 41E	104 09 42E
DOVOL	RAXIM
03 30 47N	03 03 18N
103 49 23E	104 17 13E
IDSEL	KIBOL
03 24 32N	02 52 24N
103 55 44E	104 28 18E
EGOLO	LENDA
03 19 34N	02 41 24N
104 00 47E	104 39 32E

RVSM SEPARATION AVAILABLE SINGAPORE FIR BTN FL 290 AND FL 410 (Inclusive)

AIRSPACE CLASSIFICATION IN THE SINGAPORE FIR

Airspace		Levels	Classification
Controlled airspace		FL 150 to FL 460	A
		Surface to FL 150	B
Controlled airspace more than 100 nm seaward from the shoreline		Lower limit to FL 460	A
Control Zones (CTRs)	Changi CTR	Surface to upper limit	C
	Paya Lebar CTR		D
	Seletar CTR		C
ATZs		Surface to upper limit	D
Uncontrolled airspace			G*

* Aircraft operating in Light Aircraft Training Areas A, B and C (please refer to AIP Singapore page ENR 5.2-1) are required to have continuous two-way communications with the appropriate ATS authority.

CAUTION

Consult respective NOTAMs and AIPs of States concerned for the latest information and the Civil Aviation Authority of Singapore does not accept responsibility for any errors or omissions in the information shown outside of Singapore FIR

MAGNETIC INFORMATION FOR THE YEAR 2020

COMMUNICATION FACILITIES			
SINGAPORE (ACC) SINGAPORE RADAR	P123.7 133.8 (0000-1430)	S127.3	For Awy B469, G219, G334, L629, L635, L642, M751, M759, M761, M763, M771, N884, N891 & N892 in the vicinity of VMR and VPK.
	P133.25	S135.8	For Awy A457, A464, A576 (all northbound) and R469
	P134.2	S133.35	For Awy M646, G580, L644 & M767.
	P134.4 255.4	S128.1	For Awy A464, A576, G579 (all southbound), B470, L644, N875 and in area in the immediate vicinity of Singapore.
SINGAPORE RADIO	6 556, 11 297 5 655, 8 942, 11 396 6 556.		SEA 1 SEA 2 SEA 3
SINGAPORE APPROACH	APP	P124.05 S124.6	TAR - 1) Intermediate approach to Singapore Changi Airport and other airports in Singapore. 2) Dep from all airports in Singapore.
SINGAPORE ARRIVAL	APP	119.3	TAR - Intermediate and final approach to Singapore Changi Airport.
SINGAPORE/ Singapore Changi (WSSS)	D-ATIS TWR	128.6 118.6	Data Link Service available H24. For Take-off/Landing

P - Primary ; S - Secondary

NOTE : Information on radio communication facilities outside Singapore FIR are not included. See respective AIPs of States concerned.

CONICAL CONFORMAL PROJECTION

CHANGES : Isogonic lines updated.

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(2860) SINGAPORE ISLAND

WORLD AERONAUTICAL CHART
ICAO 1:1,000,000

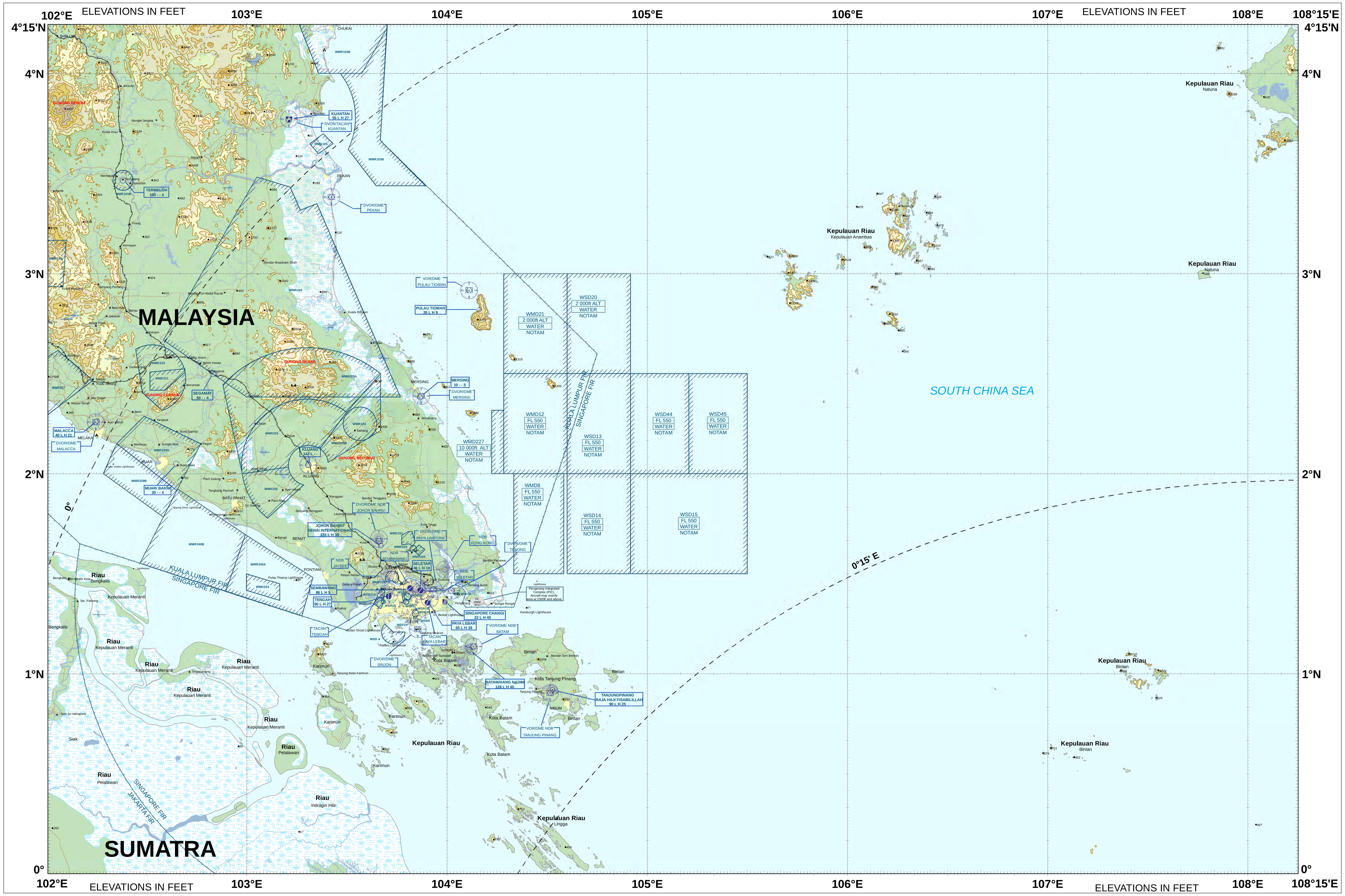
HYPSOMETRIC TINTS

Elevations Feet - Metres

- 6000-1829
- 5000-1524
- 4000-1219
- 3000-915
- 2000-610
- 1000-305
- 500-152
- SEA LEVEL

CONVERSION TABLE

Feet	Metres
20000	6096
500	152
150	45.7



Published by the Civil Aviation Authority of Singapore, 2022
Produced by SLC Geomatic Solutions Ltd, United Kingdom

CHANGES : Updated Chart.

Kilometers 10 5 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240

Nautical Miles 10 5 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

Contours basic interval 1000 feet. Intermediate contours shown at 500 feet.

CAUTION
Consult respective NOTAMs and AIPs of States concerned for the latest aeronautical information
AND
the Civil Aviation Authority of Singapore does not accept responsibility for any errors or omissions in the information shown outside of Singapore Territory.

NOTE
Due to congestion in the Singapore area, only selected Navigation Aids and Restricted Airspace are shown.

Compiled by Civil Aviation Authority of Singapore and SLC Geomatic Solutions Ltd, United Kingdom from the following sources:

a) Digital World Ocean Basemap, Sources: Esri

b) Magnetic Information for the year 2020, NOAA World Magnetic Model produced by National Geospatial-Intelligence Agency (NGA), United States and the Defence Geographic Centre (DGC), United Kingdom.

c) Aeronautical Information supplied by the Civil Aviation Authority of Singapore.

d) Terrain data used for topography information, Contours, Spot Elevations and Hypsometric tints Source: SRTM PlusV3 Worldwide Elevation data,1-arc-second resolution.

e) Culture information Source: OpenStreetMap datasets published by Geofabrik GmbH, last updated 2021.

PROJECTION
Lambert Conformal Conic Projection
Standard Parallels 0°40' and 3°20'
Spheroid - World Geodetic System 1984 (WGS-84)

MAGNETIC INFORMATION FOR THE YEAR 2020

Aeronautical Information: March 2022

- Primary Road
- Secondary Road
- Expressway
- Railway
- Spot elevation accurate, approximate — 1752
- Highest known elevation — 6907, 3°49'23.0080"N 102°05'38.4844"E
- Contours — 1000
- City or large town
- Town
- Small river, large river
- Lake, dam
- Swamp
- Cliff
- Ruins
- Fort

AERONAUTICAL INFORMATION

AERODROMES

- Major — PAYA LEBAR 65 L H 38
- Civil Land
- Military Land
- Aerodrome with no facilities

Major aerodromes portrayed have a hard surface runway length of 3000 feet or more.

VERTICAL OBSTRUCTIONS

- Obstacle — 310 (300)
- Lighted Obstacle — 614 (600)
- Lighted Group Obstacles — 913 (780)
- Elevation of top above mean sea level (AMSL) — 913
- Height of top above ground level (AGL) — (780)

All reported vertical obstructions cannot be portrayed due to chart scale. Obstructions shown are at least 200 feet AGL. In and around major populated places the pattern is further reduced to enhance quality.

AIR TRAFFIC SERVICES

- Flight Information Region — FIR
- Prohibited, Restricted or Danger Area

RADIO NAVIGATION AIDS

- NDB — NDB SELETAR
- VOR / DME — DVOR/DME TEKONG
- VOR / TAC — VOR/TAC KUANTAN
- TACAN — TACAN TENGAH

VISUAL AIDS

- Aeronautical Ground Light — ★
- Marine light — ● Fl
- Group Flashing — ● GP Fl

Marine lights are white unless colours are stated.

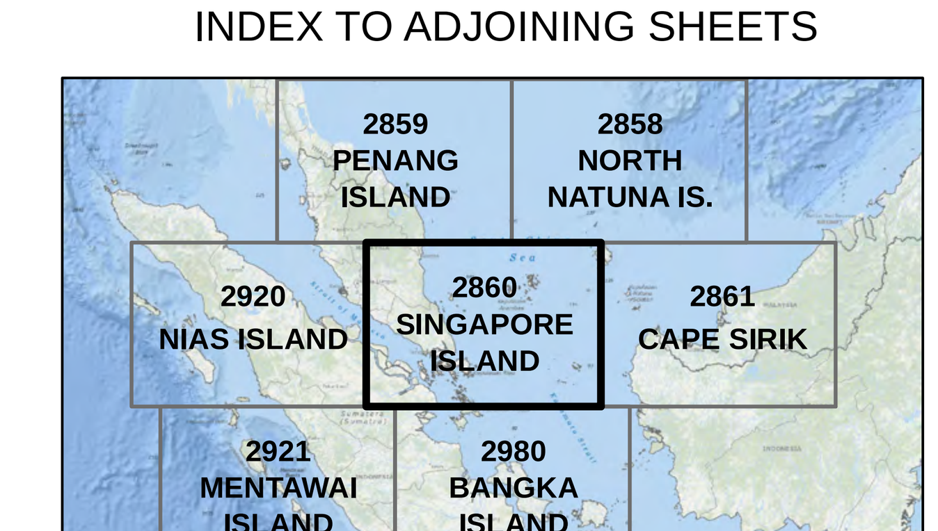
MISCELLANEOUS

- Isogonic line — 1°E

GLOSSARY

Gunong, Gunung	mountain
Kampong, Kg	village
Kepulauan	island group
Pulau	island
Selat	strait
Sungai, S	river, stream
Tanjong, Tanjung, Tg	point, cape
Tasik	lake
Telok, Tk	bay

INDEX TO ADJOINING SHEETS



(2860) SINGAPORE ISLAND

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AERODROME CHART - ICAO

01˚ 21' 33"N
103˚59' 22"E

AERODROME ELEVATION 6.66m

TWR	118.6 / 118.25 / 131.4
GND	124.3 / 121.85 / 121.725 / 127.275
DELIVERY	121.65 / 119.6

RAMP TWR	
GND	122.55 (GMC 4 EAST)
	125.65 (GMC 4 WEST)

SINGAPORE/SINGAPORE CHANGI

PAPI 3° (MEHT)*

Pilot's eye height over the threshold when the following PAPI lights come into view.	RUNWAY					
	02L	20R	02C	20C	02R	20L
2 White lights and 2 red lights	20.0m	20.0m	19.8m	19.8m	19.7m	19.7m
3 White lights and 1 red light	24.0m	22.6m	23.7m	23.7m	23.6m	23.6m
4 White lights	26.4m	25.0m	26.2m	26.2m	26.0m	26.0m

* MEHT . Minimum Eye Height Over the Threshold.
Note . Aircraft with eye-to-wheel height greater than 8 metres are advised to fly with 2 white lights and 2 red lights visible so as to achieve sufficient wheel clearance.

RWY	DIRECTION	THR	GEOID UNDULATION	BEARING STRENGTH
02L	023˚	01 20 56.27N 103 58 38.82E	10.24m	PCN 72/F/B/W/U
20R (DISP THR)	203˚	01 22 33.95N 103 59 20.06E	10.25m	
02C	023˚	01 19 43.51N 103 59 05.86E	10.27m	
20C	203˚	01 21 43.37N 103 59 56.46E	10.30m	
02R	023˚	01 19 20.59N 103 59 59.45E	10.32m	PCN 82/F/B/X/T
20L	203˚	01 21 20.45N 104 00 50.05E	10.36m	

TAXIWAYS

BEARING STRENGTH
PCN 85/R/B/W/U - Taxiways W1, W9, T2, T4, T12 and T (between T11-T12).
PCN 80 F/B/X/T - TWY T (between TWY P and TWY J), Taxiways J and K (between Taxiways K2 and J12)
PCN 90 R/B/W/T - Taxiways A (between A1 and A2, and between A11 and A12), A1, A2, A11, A12, B (between B1 and B2, and between B13 and B14), B1, B2, B13, B14.
PCN 82 F/B/X/T - Taxiway P1 (between N and N5) and all other A, B, J, K Taxiways.
PCN 72/F/B/W/U - All other Taxiways

APRONS

BEARING STRENGTH
PCN 85/R/B/W/U

ELEVATIONS AND DIMENSIONS IN METRES

TAXIWAYS MINIMUM 23m WIDE

NOTE :
SEE FLIP SIDE FOR DETAILS OF
i) INS COORDINATES FOR AIRCRAFT STANDS AND PRE-FLIGHT ALTIMETER CHECK LOCATIONS.
ii) RESTRICTIONS ON TAXIWAYS.

AREA CLOSED FOR CHANGI EAST CONSTRUCTION WORKS (INCLUDING RUNWAY 02C/20C)

LEGEND

	Aircraft Stands and Taxiways Markings
	Runway Centre Line Lights
	Runway Edge Lights
	White Touchdown Zone Lights
	Blue Taxiway Edge Lights
	Green Taxiway CentreLine Lights
	Cat II Holding Position Markings Red Stop Bar Lights Controllable ON/OFF
	Twy Intersection Holding Position Markings Red Stop Bar Lights Controllable ON/OFF
	Blue Taxiway Edge Markers
	FOD Detection Masts
	Cat III Holding Position Markings Red Stop Bar Lights Controllable ON/OFF
	Road Holding Postion Line with cat-eyes installed Road Holding Position Lights (Red) - Flashing

Metres 100 0 100 200 300 400 500 600 700 800 900 1000 Metres

Changes : Addition and removal of Jet Blast Fence near Parking Stand G1 at Terminal 4.
Addition of new Lead-in Lines Marking for Parking Stands C19 and D38 at Terminal 1.
Restrictions on Taxiways added on flip side.

INS COORDINATES FOR AIRCRAFT STANDS AND PRE-FLIGHT ALTIMETER CHECK LOCATIONS

LOCATION	STAND NR	NORTH LAT	EAST LONG	ELEVATION
T3 SOUTH APRON	A1	01 21 21.52	103 59 06.25	4.75m (15.58ft)
	A2	01 21 21.75	103 59 04.00	4.65m (15.26ft)
	A3	01 21 19.86	103 59 02.79	4.66m (15.29ft)
	A4	01 21 17.61	103 59 02.54	4.79m (15.72ft)
	A5	01 21 15.50	103 59 03.62	4.86m (15.94ft)
	A9	01 21 12.56	103 59 03.65	5.02m (16.47ft)
	A10	01 21 10.34	103 59 02.40	5.04m (16.54ft)
	A11	01 21 07.93	103 59 01.41	5.25m (17.22ft)
	A12	01 21 05.76	103 59 00.49	5.38m (17.65ft)
	A13	01 21 03.59	103 58 59.58	5.48m (17.98ft)
	A14	01 21 01.66	103 58 57.59	5.57m (18.27ft)
	A15	01 21 00.77	103 58 55.41	5.46m (17.91ft)
	A16	01 20 59.27	103 58 54.20	5.51m (18.08ft)
	A17	01 20 57.25	103 58 54.06	5.23m (17.16ft)
	A18	01 20 55.87	103 58 55.25	5.37m (17.62ft)
	A19	01 20 55.26	103 58 57.13	5.40m (17.72ft)
	A20	01 20 56.09	103 58 58.83	5.45m (17.88ft)
	A21	01 20 57.10	103 59 00.80	5.49m (18.01ft)
T3 NORTH APRON	B1	01 21 26.86	103 59 08.37	4.82m (15.81ft)
	B2	01 21 28.18	103 59 06.82	4.68m (15.35ft)
	B3	01 21 30.33	103 59 07.30	4.65m (15.26ft)
	B4	01 21 32.03	103 59 08.60	4.75m (15.58ft)
	B5	01 21 32.98	103 59 10.89	4.80m (15.75ft)
	B6	01 21 35.15	103 59 13.16	4.96m (16.27ft)
	B7	01 21 37.65	103 59 13.93	4.97m (16.31ft)
	B8	01 21 39.94	103 59 15.20	5.13m (16.83ft)
	B9	01 21 42.19	103 59 16.16	5.13m (16.83ft)
	B10	01 21 44.47	103 59 17.12	5.15m (16.90ft)
T1 WEST APRON	C1	01 21 46.75	103 59 18.08	5.09m (16.70ft)
	C20	01 21 48.83	103 59 19.23	5.08m (16.67ft)
	C22	01 21 51.00	103 59 20.13	5.15m (16.90ft)
	C23	01 21 53.56	103 59 20.77	5.08m (16.67ft)
	C24	01 21 56.54	103 59 20.97	4.89m (16.04ft)
	C25	01 21 59.12	103 59 20.59	4.99m (16.37ft)
	C26	01 22 01.48	103 59 20.76	5.01m (16.44ft)
T1 CENTRAL APRON	C11	01 21 47.42	103 59 23.82	5.09m (16.70ft)
	C13	01 21 49.63	103 59 24.75	5.03m (16.50ft)
	C15	01 21 51.89	103 59 25.70	5.06m (16.60ft)
	C16	01 21 53.47	103 59 26.62	4.86m (15.94ft)
	C17	01 21 55.50	103 59 26.20	5.01m (16.44ft)
	C17L	01 21 54.75	103 59 26.22	4.96m (16.27ft)
	C17R	01 21 56.01	103 59 25.68	5.12m (16.80ft)
	C18	01 21 57.86	103 59 25.75	4.99m (16.37ft)
	C19	01 21 59.79	103 59 25.63	4.95m (16.24ft)
	D30	01 21 44.54	103 59 30.14	5.08m (16.67ft)
	D32	01 21 46.75	103 59 31.08	5.08m (16.67ft)
	D34	01 21 49.03	103 59 32.04	5.07m (16.63ft)
	D35	01 21 50.87	103 59 32.82	5.02m (16.47ft)
	D36	01 21 51.98	103 59 34.52	5.06m (16.60ft)
	D37	01 21 53.37	103 59 36.28	4.97m (16.31ft)
	D38	01 21 54.58	103 59 37.77	4.99m (16.37ft)
T1 EAST APRON	D40	01 21 38.13	103 59 32.89	5.11m (16.77ft)
	D40L	01 21 37.38	103 59 32.83	5.09m (16.70ft)
	D40R	01 21 38.77	103 59 32.84	5.13m (16.83ft)
	D41	01 21 40.30	103 59 33.81	5.07m (16.63ft)
	D42	01 21 42.77	103 59 34.58	5.15m (16.89ft)
	D42L	01 21 42.00	103 59 34.47	5.12m (16.79ft)
	D42R	01 21 43.45	103 59 34.44	5.21m (17.09ft)
	D44	01 21 44.97	103 59 35.44	5.14m (16.86ft)
	D46	01 21 47.40	103 59 36.72	5.08m (16.67ft)
	D47	01 21 49.19	103 59 38.89	4.93m (16.17ft)
	D48	01 21 50.60	103 59 40.77	4.97m (16.31ft)
	D49	01 21 52.23	103 59 42.35	4.98m (16.34ft)
T2 NORTH APRON	E8	01 21 27.99	103 59 38.45	4.68m (15.35ft)
	E10	01 21 24.15	103 59 32.67	4.71m (15.45ft)
	E11	01 21 25.57	103 59 34.37	4.78m (15.68ft)
	E12	01 21 27.20	103 59 36.42	4.75m (15.58ft)
	E20	01 21 24.36	103 59 27.08	5.04m (16.54ft)
	E22	01 21 26.64	103 59 28.04	5.07m (16.63ft)
	E24	01 21 29.01	103 59 29.06	5.09m (16.70ft)
	E24L	01 21 28.32	103 59 28.77	5.10m (16.73ft)
	E24R	01 21 29.53	103 59 29.28	5.08m (16.67ft)
	E26	01 21 31.19	103 59 29.96	5.08m (16.67ft)
	E27	01 21 33.56	103 59 30.96	5.07m (16.62ft)
	E27L	01 21 32.79	103 59 30.86	5.03m (16.48ft)
	E27R	01 21 34.20	103 59 30.91	5.12m (16.80ft)
	E28	01 21 35.74	103 59 31.89	5.08m (16.67ft)

INS COORDINATES FOR AIRCRAFT STANDS AND PRE-FLIGHT ALTIMETER CHECK LOCATIONS

LOCATION	STAND NR	NORTH LAT	EAST LONG	ELEVATION
T2 CENTRAL APRON	E1	01 21 20.02	103 59 25.58	4.91m (16.11ft)
	E2	01 21 19.28	103 59 27.30	4.90m (16.08ft)
	E3	01 21 18.44	103 59 29.27	4.82m (15.81ft)
	E4	01 21 18.10	103 59 31.70	4.80m (15.75ft)
	E5	01 21 19.56	103 59 33.72	4.90m (16.08ft)
	E6	01 21 21.22	103 59 35.93	4.84m (15.88ft)
	E7	01 21 22.48	103 59 37.46	4.73m (15.52ft)
	F30	01 21 14.71	103 59 23.33	4.92m (16.14ft)
	F31	01 21 13.87	103 59 25.30	4.91m(16.11ft)
	F32	01 21 13.03	103 59 27.26	4.85m (15.91ft)
	F33	01 21 11.30	103 59 28.54	4.91m (16.11ft)
	F34	01 21 08.98	103 59 28.96	4.92m (16.14ft)
	F35	01 21 06.60	103 59 29.55	4.91m (16.11ft)
	F35L	01 21 06.06	103 59 30.13	4.74m (15.55ft)
	F35R	01 21 06.96	103 59 29.05	5.04m (16.54ft)
	F36	01 21 04.34	103 59 29.67	4.82m (15.81ft)
T2 SOUTH APRON	F37	01 20 59.83	103 59 27.87	4.75m (15.58ft)
	F40	01 21 05.62	103 59 25.34	4.85m (15.91ft)
	F41	01 21 03.19	103 59 25.58	4.82m (15.81ft)
	F42	01 21 00.61	103 59 25.96	4.72m (15.49ft)
	F50	01 21 10.69	103 59 21.32	5.03m (16.50ft)
	F52	01 21 08.51	103 59 20.40	5.11m (16.77ft)
	F52L	01 21 07.82	103 59 20.11	5.16m (16.93ft)
	F52R	01 21 09.04	103 59 20.62	5.08m (16.67ft)
	F54	01 21 06.14	103 59 19.40	5.22m (17.13ft)
	F56	01 21 03.96	103 59 18.48	5.30m (17.39ft)
	F56L	01 21 03.27	103 59 18.18	5.42m (17.78ft)
	F56R	01 21 04.49	103 59 18.70	5.34m (17.52ft)
	F58	01 21 01.58	103 59 17.47	5.49m (18.01ft)
	F59	01 20 59.41	103 59 16.55	5.64m (18.50ft)
	F59L	01 20 58.72	103 59 16.26	5.67m (18.60ft)
	F59R	01 20 59.93	103 59 16.78	5.60m (18.37ft)
	F60	01 20 56.91	103 59 15.50	5.77m (18.93ft)
EAST REMOTE APRON	200	01 20 47.83	103 59 11.67	6.23m (20.44ft)
	200L	01 20 46.91	103 59 11.92	6.29m (20.64ft)
	200R	01 20 48.35	103 59 11.89	6.18m (20.28ft)
	201	01 20 49.99	103 59 12.62	5.96m (19.55ft)
	202	01 20 52.34	103 59 13.57	5.94m (19.49ft)
	202L	01 20 51.65	103 59 13.28	5.76m (18.90ft)
	202R	01 20 52.87	103 59 13.79	5.73m (18.80ft)
	203	01 20 54.52	103 59 14.47	5.92m (19.42ft)
SOUTH-EAST REMOTE APRON	205	01 20 43.91	103 59 17.06	4.77m (15.65ft)
	206	01 20 46.08	103 59 17.98	4.76m (15.62ft)
	207	01 20 47.91	103 59 18.88	4.74m (15.55ft)
	208	01 20 49.48	103 59 19.54	4.74m (15.55ft)
	209	01 20 51.06	103 59 20.21	4.75m (15.58ft)
NORTH REMOTE APRON	300	01 22 06.95	103 59 22.67	4.53m (14.86ft)
	301	01 22 06.41	103 59 24.69	4.93m (16.17ft)
	302	01 22 05.21	103 59 26.75	4.97m (16.31ft)
	303	01 22 03.55	103 59 31.40	5.32m (17.45ft)
	304	01 22 02.84	103 59 33.05	5.35m (17.55ft)
	305	01 22 02.14	103 59 34.71	5.30m (17.39ft)
	306	01 22 01.41	103 59 36.42	5.16m (16.93ft)
	307	01 21 59.39	103 59 40.36	5.16m (16.93ft)
	308	01 21 58.96	103 59 41.35	5.10m (16.73ft)
	309	01 21 58.52	103 59 43.17	5.06m (16.60ft)
	310	01 21 57.42	103 59 44.96	4.74m (15.55ft)
NORTH-EAST REMOTE APRON	400	01 21 38.71	103 59 40.14	4.31m (14.14ft)
	401	01 21 40.98	103 59 41.10	4.31m (14.14ft)
	402	01 21 42.85	103 59 41.89	4.30m (14.11ft)
	403	01 21 44.37	103 59 42.53	4.29m (14.07ft)
	404	01 21 45.45	103 59 42.98	4.20m (13.78ft)
WEST CARGO APRON	502	01 22 22.23	103 59 31.62	4.35m (14.27ft)
	503	01 22 24.98	103 59 32.78	4.29m (14.07ft)
	504	01 22 27.26	103 59 33.74	4.29m (14.07ft)
	505	01 22 29.54	103 59 34.70	4.32m (14.17ft)
	506	01 22 31.81	103 59 35.66	4.38m (14.37ft)
	507	01 22 34.11	103 59 36.64	4.36m (14.30ft)
	508	01 22 36.41	103 59 37.61	4.29m (14.07ft)
	509	01 22 39.12	103 59 38.76	4.09m (13.42ft)
	510	01 22 41.37	103 59 40.18	4.19m (13.75ft)
	511	01 22 43.54	103 59 41.09	4.22m (13.85ft)
	512	01 22 45.71	103 59 42.01	4.24m (13.91ft)
	513	01 22 47.89	103 59 42.92	4.26m (13.98ft)
	514	01 22 50.19	103 59 43.54	4.36m (14.30ft)
	515	01 22 52.90	103 59 43.20	4.09m (13.43ft)
	516	01 22 55.39	103 59 43.97	4.04m (13.26ft)
	516L	01 22 56.24	103 59 43.80	3.96m (12.98ft)
	516R	01 22 54.93	103 59 43.25	3.95m (12.97ft)
	517	01 22 58.02	103 59 45.08	4.05m (13.27ft)
	517L	01 22 58.83	103 59 44.99	3.98m (13.05ft)
	517R	01 22 57.55	103 59 44.35	3.96m (12.98ft)

INS COORDINATES FOR AIRCRAFT STANDS AND PRE-FLIGHT ALTIMETER CHECK LOCATIONS

LOCATION	STAND NR	NORTH LAT	EAST LONG	ELEVATION
EAST CARGO APRON	600	01 22 14.12	103 59 48.10	4.25m (13.94ft)
	600L	01 22 13.28	103 59 48.27	4.22m (13.83ft)
	600R	01 22 14.58	103 59 48.81	4.15m (13.60ft)
	601	01 22 16.52	103 59 49.27	4.27m (14.01ft)
	602	01 22 18.80	103 59 50.23	4.30m (14.11ft)
	603	01 22 21.15	103 59 51.02	4.29m (14.07ft)
	604	01 22 23.46	103 59 51.99	4.31m (14.14ft)
	605	01 22 25.19	103 59 52.75	4.27m (14.01ft)
EAST SERVICE APRON	606	01 22 10.00	103 59 52.53	2.43m (7.97ft)
	609	01 22 12.95	103 59 55.04	2.91m (9.55ft)
ACEHUB	611	01 22 22.14	104 00 02.87	4.01m (13.16ft)
	612	01 22 24.50	104 00 02.87	3.91m (12.83ft)
SOUTH APRON	461	01 20 39.67	103 58 52.75	5.28m (17.32ft)
	462	01 20 40.69	103 58 50.37	5.75m (18.86ft)
	462L	01 20 40.41	103 58 51.02	5.48m (17.98ft)
	462R	01 20 40.97	103 58 49.71	5.71m (18.73ft)
	463	01 20 41.80	103 58 47.76	5.97m (19.59ft)
	463L	01 20 41.52	103 58 48.42	5.82m (19.10ft)
	463R	01 20 42.06	103 58 47.17	5.82m (19.10ft)
	464	01 20 32.33	103 58 49.39	4.98m (16.34ft)
	465	01 20 33.61	103 58 47.20	5.01m (16.44ft)
	466	01 20 34.53	103 58 45.05	5.01m (16.44ft)
	467	01 20 27.32	103 58 45.73	5.01m (16.44ft)
	468	01 20 28.34	103 58 43.34	5.00m (16.41ft)
	469	01 20 29.36	103 58 40.96	5.02m (16.47ft)
	471	01 20 23.76	103 58 44.49	5.16m (16.93ft)
	472	01 20 24.55	103 58 43.24	5.16m (16.93ft)
	473	01 20 25.12	103 58 41.90	5.16m (16.93ft)
	474	01 20 25.70	103 58 40.56	5.16m (16.93ft)
	475	01 20 26.27	103 58 39.22	5.16m (16.93ft)
	476	01 20 19.16	103 58 41.47	5.16m (16.93ft)
	477	01 20 19.74	103 58 40.13	5.16m (16.93ft)
	478	01 20 20.31	103 58 38.79	5.16m (16.93ft)
	479	01 20 20.88	103 58 37.45	5.16m (16.93ft)
	480	01 20 21.45	103 58 36.11	5.16m (16.93ft)
	481	01 20 25.27	103 58 32.56	5.22m (17.13ft)
	482	01 20 26.62	103 58 33.13	5.22m (17.13ft)
	483	01 20 27.96	103 58 33.70	5.22m (17.13ft)
	484	01 20 29.31	103 58 34.27	5.22m (17.13ft)
	485	01 20 30.66	103 58 34.84	5.22m (17.13ft)
	486	01 20 32.01	103 58 35.41	5.22m (17.13ft)
	487	01 20 33.36	103 58 35.98	5.22m (17.13ft)
T4 APRON	G1	01 20 07.58	103 59 00.97	3.95m (12.96ft)
	G2	01 20 08.88	103 59 01.52	3.95m (12.96ft)
	G3	01 20 10.18	103 59 02.07	3.95m (12.96ft)
	G4	01 20 11.48	103 59 02.07	3.94m (12.93ft)
	G5	01 20 12.77	103 59 03.17	3.94m (12.93ft)
	G6	01 20 14.49	103 59 03.89	3.93m (12.89ft)
	G7	01 20 15.70	103 59 04.57	3.89m (12.76ft)
	G8	01 20 17.01	103 59 05.12	3.85m (12.63ft)
	G9	01 20 18.31	103 59 05.67	3.85m (12.63ft)
	G10	01 20 19.60	103 59 06.22	3.86m (12.66ft)
	G11	01 20 20.90	103 59 06.77	3.84m (12.60ft)
	G12	01 20 22.20	103 59 07.31	3.83m (12.57ft)
	G13	01 20 23.50	103 59 07.86	3.82m (12.53ft)
	G14	01 20 24.79	103 59 08.41	3.83m (12.57ft)
	G15	01 20 26.09	103 59 08.96	3.88m (12.73ft)
	G16	01 20 27.39	103 59 09.50	4.05m (13.29ft)
	G17	01 20 28.69	103 59 10.05	4.00m (13.12ft)
	G18	01 20 31.53	103 59 11.86	4.36m (14.30ft)
	G18L	01 20 32.05	103 59 12.85	4.34m (14.24ft)
	G18R	01 20 31.65	103 59 11.26	4.43m (14.53ft)
	G19	01 20 32.64	103 59 09.25	4.56m (14.96ft)
	G19L	01 20 33.17	103 59 11.26	4.47m (14.67ft)
	G19R	01 20 32.77	103 59 08.66	4.56m (14.96ft)
	G20	01 20 33.75	103 59 06.65	4.52m (14.83ft)
	G20L	01 20 34.13	103 59 07.58	4.44m (14.57ft)
	G20R	01 20 33.99	103 59 06.10	4.52m (14.83ft)
	G21	01 20 34.87	103 59 04.04	4.51m (14.80ft)
	G21L	01 20 35.24	103 59 04.98	4.52m (14.83ft)
	G21R	01 20 35.10	103 59 03.49	4.55m (14.93ft)

RESTRICTIONS ON TAXIWAYS

1) Pilots are advised to apply minimum thrust when
   i) turning into TWY P2, P4, P5 and Taxilane P6 while taxiing either northwards or southwards on Taxilane P7, and
   ii) thereafter when taxiing along TWY P2 up to and including the TWY P1/P2 junction.
   This is in view of apron activities at aircraft stands D40, D41, D47, D48, D49, E22, E24, E27 and E28.

2) TWY SA can only be used by aircraft with maximum wingspan 65m. TWY SA is a one-way live TWY for aircraft taxiing into SASCO hangar via RWY 02L. Only tow-out operation is allowed from SASCO hangar into TWY SA and RWY 02L.

3) Taxiway Q (between TWY V and TWY P7) can only be used by aircraft with maximum wingspan 65m.

4) Taxiway centreline along TWY T between TWY R1 and R3 offset eastward by 2.5m away from aircraft stands E7 and F36

5) Pilots are advised to apply minimum thrust when turning into Taxiway V from Taxilane V7.

6) Taxilane V11 (behind aircraft stands A18 to A21) can only be used by aircraft with maximum wingspan 61m.

7) Taxilane Q1 (behind aircraft stands C16 to C19 and between TWY P and TWY Q),
   Taxilane Q2 and Taxilane Q3 (behind aircraft stands D35 to D38 and between TWY P and TWY Q)
   can only be used by aircraft with maximum wingspan 65m.

8) Taxilane P7 (behind aircraft stands E20 to E22) and Taxilane R7 (behind aircraft stands F50 to F54) can only be used by aircraft with maximum wingspan 65m (towing and pushback exempted).

9) Taxilane U2 can only be used by aircraft with maximum wingspan 36m.

10) TWY U8, U9 and U4 can only be used by aircraft with maximum wingspan 65m.

11) Pilots are advised to exercise caution when taxiing near Taxilane U2, U8, U9 and U4.

12) Pilots are advised to apply speed limit of 20 knots when taxiing along TWY R and TWY S.

13) Pilots turning aircraft into aircraft stand A2 or aircraft stand B2 are advised to wait for any aircraft holding at Taxilane V7, at the inner cul-de-sac portion of the terminal building to vacate this portion before turning into aircraft stand A2 or aircraft stand B2.

14) TWY M, M4, M5, M6 and M7, located western side of RWY 02L/20R, are solely for use by Republic of Singapore Air Force (RSAF) aircraft.

15) TWY MY, MY1, MY2, MY3, MY4, MY5, MY6, MY7, MY8, MY9 and MY10, located eastern side of RWY 02R/20L, are solely for use by Republic of Singapore Air Force (RSAF) aircraft.

16) Taxiway S2, S3 and Taxilane S4 can only be used by aircraft with maximum wingspan 65m.

17) Taxilane S6, S8, S9 and Taxiway S7 can only be used by aircraft with maximum wingspan 36m.

RADIO ALTIMETER OPERATIONS AREA

A radio altimeter operating area is established in the pre-threshold area of Runway 02L/20R, Runway 02C/20C and Runway 02R/20L.
The size of the radio altimeter operating area is 300m length and 120m width.

AIRCRAFT STANDS WITH SAFEGATE AIRCRAFT DOCKING GUIDANCE SYSTEM.

TOTAL AIRCRAFT PARKING POSITIONS : 230