

Letter of Agreement (LOA)

Between

People's Republic of China Division (VATPRC)

and

Hong Kong vACC, Southeast Asia Division (VATSEA)





Effective Date: 1 May 2023

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1. PURPOSE

1.1 This Letter of Agreement (LOA) establishes standard procedures and coordination responsibilities of air traffic control between Guangzhou FIR (ZGZU), Shanghai FIR (ZSHA), Sanya FIR (ZJSA) of People's Republic of China Division (VATPRC) and Hong Kong FIR (VHHK) of Hong Kong vACC, Southeast Asia Division (VATSEA).

2. CANCELLATION

2.1 This document supersedes any agreements previously established in verbal or written form between VATSEA and VATPRC.

3. SCOPE

3.1 The information contained herein are supplementary to the rules established under VATSIM regulations, Aeronautical Information Publication (AIP) of the Hong Kong Special Administrative Region published by the Hong Kong Civil Aviation Department, AIP (Publicações de Informações Aeronáuticas) of Macau Special Administrative Region published by the Civil Aviation Administration of Macau S.A.R. (Autoridade de Aviação Civil da RAEM) and the AIP of the People's Republic of China published by the Civil Aviation of China (CAAC).

3.2 While such regulations shall generally be strictly followed on the VATSIM network, in some circumstances exemptions or modifications to the real-world regulations are necessary due to operational need in an online environment. Such deviation shall be discussed in this document.

4. DISCLOSURE

4.1 Both parties shall make this Letter of Agreement available for public access on their respective official websites. The information contained herein is for the exclusive use on the Virtual Air Traffic Simulation Network (VATSIM) only. Under no circumstances shall such information be used in the real world, including but not limited to, real-world air navigation or real-world air traffic control.

5. LANGUAGE

5.1 This Letter of Agreement is officially and originally prepared and documented in the English language. Both parties are encouraged to translate this LOA into Traditional Chinese and/or Simplified Chinese for reference purposes, but this is optional. The English version of this LOA shall always prevail, and future revision to this LOA shall base upon the English version.



6. GENERAL PROCEDURES

6.1 Unless otherwise stated or coordinated,

6.1.1 Enroute control (CTR) of both parties shall keep traffic away from the **5 nautical miles (nm) margin** of the boundary between Hong Kong FIR (VHHK), Guangzhou FIR (ZGZU), Shanghai FIR (ZSHA) and Sanya FIR (ZJSA) under all circumstances. The margins on both sides constitute a buffer zone of width **10nm**. Except during a standard handover procedure, controller in charge of the corresponding airspace or sector must coordinate and point out such aircraft to the controller of the other party when it becomes necessary for traffic to enter or crossing such margin.

6.1.2 Due to the proximity of the approach path of runway 07L at VHHH and runway 33/34 at ZGSZ, TMA Controllers (APP) shall keep traffic away from the **2 nautical miles (nm) margin** of the boundary between the AORs, except when following a published procedure. The margins on both sides constitute a buffer zone of width **4nm.** Should a pilot deviate from a published procedure, controllers should immediately vector the aircraft away from the AOR/FIR boundary.

6.1.3 Controllers shall make every effort to follow the radar separation minima defined in ICAO Doc 4444. In addition, controllers shall also comply with the separation methods provided by the AIP of Hong Kong, AIP of Macau, and the AIP of Mainland China.

6.1.3.1 As per ENR 2.2.2.3 Section 4.5 of AIP of Mainland China for IFR: "For aircraft arriving at or departing from Macau at same level and on same route:

<u>Arrival:</u> **Minimum longitudinal separation** shall be **5 minutes** (or **30 NM**) when aircraft crossing the transfer of control point between Zhuhai Approach and Hong Kong.

<u>Departure:</u> **Minimum longitudinal separation** shall be **5 minutes** when aircraft crossing the transfer of control point between Macau and Zhuhai Approach."

6.1.3.2 As per ENR 1.2 Section 4 of AIP of Mainland China for VFR: "The separation between aircraft operating on the same track and at same altitude shall not be less than:

<u>2000m</u>¹: when aircraft cruising indicated airspeeds are less than 250km/h²; or <u>5000m</u>¹: when aircraft cruising indicated airspeeds are 250km/h² or above."

Remarks:

¹2000m = 1NM; 5000m = 3NM ²250km/h = 135kt

6.1.4 Controller of each side shall initiate each handover **ten to thirty nautical miles (10-30 nm)** before crossing the Transfer of Control Point (TCP). Handoff



must be completed at least **ten nautical miles (10nm) for IFR** or **three nautical miles (3nm) for VFR** from the TCP.

6.1.5 Conversion of altitude measurement unit shall be performed according to Section 8 and Section 9 of this document prior to handoff.

6.1.6 No controller shall clear an aircraft directly to a waypoint outside of the FIR at which the controller controls unless prior coordination is made, and proper permission of such clearance is obtained. This also applies when there is no en-route/ terminal ATC available at the adjacent FIR through which a flight will transit.

6.1.7 Proper liaison between FIRs shall be established for handover. **Controllers shall advise any cruising level changes (i.e., the altitude at which the aircraft will be flying during the handover) of a particular aircraft prior entering neighboring FIR.** As per ICAO Doc 4444 Section 5.3.3.1, aircraft may not be cleared to change altitude during a handoff unless prior clearance has been obtained from the accepting controller. <u>Controller may request an altitude different from the ones specified in Section 7 of this LOA document from the receiving controller with prior coordination.</u>

6.1.8 Controller shall ensure that all aircraft are flying under **real-time speed** (1x rate) prior to the initiation of a handover and during a handover. Crossing FIR boundary while under acceleration mode is strictly prohibited.

6.1.9 Enroute or Terminal controllers should advise controllers of the other FIR when a sector is combined or separated and provide corresponding information.

6.1.10 If the route of the filed flight plan of a flight flying between FIRs does not include a valid TCP or does not include an airway that contains the valid TCP, a controller shall amend the route of such flight plan following standard procedures per ICAO Doc 4444 so that amended route will include a valid TCP. If the pilot is unable to amend such route, proper coordination shall be made to accommodate such situations.

6.1.11 Controllers should refer to the Sector Ownership Priority table in Appendix B to determine which position to handoff to. If sectorization deviates from this standard (e.g., due to extra sectorization during events), controllers must explicitly coordinate this through ATC channels or otherwise.



7. ROUTING REQUIREMENTS

- 7.1 For flights departing VHHH/VMMC/VHHX and transiting Mainland Chinese airspace (Shanghai/Guangzhou/Sanya/Nanning CTA):
 - 7.1.1 Hong Kong departures via BEKOL A461 to join B330 airway westbound should follow the route below and fly even (metric) cruise altitudes. All other departures through BEKOL A461 to destinations beyond Guangzhou should have odd (metric) cruising altitudes. See examples below.

ADEP-ADES	Route	Cruise Level
VHHH-ZBAA	BEKOL A461 BUBDA W56 DUGEB	Odd Metric
VHHH-ZSCN	BEKOL A461 SHL G471 PLT W19 OSONO	
VHHH-ZSOF	BEKOL A461 BUBDA W56 IDPOG A581 WHA	
VHHH-ZUUU	BEKOL A461 SHL W22 TEPID W24 OSNOV G586 QP	Even Metric
VHHH-ZUCK	B330	
VHHH-E***		
(Europe)		

7.1.2 A599 airway should not be used westbound from BSE to POU. Flights must route via SIKOU R339 BSE, then join A599. Many flights to West Asia can avoid Guangzhou/Kunming airspace altogether by flying via A202. See examples below.

ADEP-ADES	Incorrect Route	Corrected Route
VHHH-ZPPP	BEKOL A461 IDUMA DCT POU A599	PECAN V10 SIKOU R339 BSE
VHHH-VABB	BEKOL A461 SHL W22 TEPID W90 POU	A599
	A599	PECAN V10 SIKOU A202
		ASSAD A206 LPB

- 7.1.3 VMMC NLG SIDs should only be issued for flights to ZGSZ. All other northbound and eastbound departures (except A470) should route via MIPAG or SHL; westbound departures should route via BIGRO.
- 7.1.4 All flights via A470 should not use NLG to connect to R200. Flights must reroute via DOTMI. See examples below.

ADEP-ADES	Incorrect Route	Corrected Route
VMMC-ZSAM	NLG W509 GLN R200 BEBEM A470	SOUSA V1 DOTMI A470

7.1.5 Routes transiting PRC airspace should not contain DCTs. All flight segments should connect via valid airways.



- 7.2 For flights departing ZGGG/ZGSZ transiting VHHK airspace:
 - 7.2.1 Flights departing from ZGGG or ZGSZ airport and transiting Hong Kong airspace must use one of the routes in the table below.
 - 7.2.2 Flights via LKC may be delayed or rejected by Hong Kong ATC when Hong Kong approach airspace is congested. Flights are recommended to route via SIERA.

ADEP	Route within HK FIR	Connecting Airway
ZGGG	SIERA DCT MULET DCT SKATE DCT CONGA V2 ELATO	A1/G581
	SIERA DCT MULET DCT SKATE DCT CONGA V3 ENVAR	M750
	SIERA DCT MULET DCT SKATE V4 NOMAN	A461/M501
	SIERA DCT MULET DCT SKATE V5 SABNO	A583
	SIERA DCT MULET DCT ALLEY V32 EPDOS L642	L642
	SIERA DCT MULET DCT ALLEY V31 IDOSI P901 IKELA	A1
	SIERA DCT MULET DCT ALLEY V10 SIKOU	R339/A202
ZGSZ	LKC DCT TD DCT OCEAN V4 NOMAN	A461/M501
	LKC DCT TD DCT OCEAN V5 SABNO	A583
	LKC DCT BREAM DCT TITAN DCT PECAN V10 ALLEY V32	L642
	EPDOS L642	
	LKC DCT BREAM DCT TITAN DCT PECAN V10 ALLEY V31	A1
	IDOSI P901 IKELA	
	SIERA DCT ROCCA DCT SKATE DCT CONGA V2 ELATO	A1/G581
	SIERA DCT ROCCA DCT SKATE DCT CONGA V3 ENVAR	M750
	SIERA DCT ROCCA DCT SKATE V4 NOMAN	A461/M501
	SIERA DCT ROCCA DCT SKATE V5 SABNO	A583
	SIERA DCT ROCCA DCT ALLEY V32 EPDOS L642	L642
	SIERA DCT ROCCA DCT ALLEY V31 IDOSI P901 IKELA	A1
	SIERA DCT ROCCA DCT ALLEY V10 SIKOU	R339/A202

- 7.3 Special Route for Helicopter or rather General Aviation aircraft
 - 7.3.1 The following routes are in principle for helicopter use ONLY. Considering the actual situation of VATSIM network, other non-helicopter aircraft - but limited to general aviation aircraft - can be used with the permission of ATC.
 - 7.3.2 Unless otherwise stated or coordinated, the helicopter or rather general aviation aircraft shall use the following routes. Refer to ENR 3.4 Section 2.2 of AIP of Hong Kong and ENR 2.2.2.4 of AIP of Mainland China, routes are:



7.3.2.1	VFR - Shenzhen ↔ Hong Kong: KEVAR – URBOR – LAXUS – LKC (TCP) 300m/1000ft or below
7.3.2.2	VFR - Shenzhen ↔ Macau: KEVAR – PEXEL – ZAO (TCP) 300m/1000ft or below
7.3.2.3	VFR track H - Guangzhou FIR ↔ Hong Kong FIR: HENGA – PING SHAN – AOTOU – SESAN (TCP) – HOTEL 600m/2000ft or below
7.3.2.4	VFR track VH - Guangzhou FIR ↔ Hong Kong FIR: HENGA – PING SHAN – DAPENG (TCP) 600m/2000ft or below
7.3.2.5	VFR track VW - Guangzhou FIR ↔ Hong Kong FIR: ZAO (TCP) – UNIFORM – VICTOR WHISKEY ZAO – UNIFORM 150m/500ft or below when VHHH RWY 07s in use 250m/800ft or below when VHHH RWY25s in use UNIFORM – VW 300m/1000ft or below
7.3.2.6	IFR track H - Guangzhou FIR ↔ Hong Kong FIR: HENGA – PING SHAN – AOTOU – SESAN (TCP) – HOTEL To Hong Kong FIR 1500m/5000ft To Guangzhou FIR 1200m/4000ft

 7.3.2.7 IFR track D - Guangzhou FIR ↔ Hong Kong FIR: ZUH – ROMEO (TCP) – DELTA To Hong Kong FIR 1200m/4000ft or 1800m/6000ft (subject to coordination) To Guangzhou FIR 1500m/5000ft

VFR waypoint	English Name	Chinese Name	Coordinates
ZAO	Jiu Zhou	九州	N221442 E1133642
ZUH	Lian Sheng Wei	连胜围	N221318 E1132800
LKC	Lung Kwu Chau	龙鼓洲	N222244 E1135302
HENGA	Heng Gang	横岗	N223900 E1141200
PING SHAN	Ping Shan	坪山	N224130 E1142100
AOTOU	Ao Tou	澳头	N224300 E1143155

7.3.3 VFR waypoint and coordinates

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Virtual Air Traffic Simulation Network (VATSIM)

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DAPENG	Da Peng	大鹏	N222700 E1143000
SESAN	Xing Shan	星山	N223050 E1145025
HOTEL	HOTEL	1	N222300 E1145430
UNIFORM	UNIFORM	1	N220900 E1134042
VICTOR WHISKEY	VICTOR WHISKEY	1	N215000 E1135500
DELTA	DELTA	1	N213100 E1133000
ROMEO	ROMEO	1	N215148 E1132654
KEVAR	KEVAR	/	N223730 E1134836
URBOR	URBOR	1	N223554 E1134312
LAXUS	LAXUS	1	N222412 E1134754
PEXEL	PEXEL	1	N222518 E1133912

- 7.3.4 Track H shall be used as the primary route of IFR.
- 7.3.5 Track H and Track VW shall be used as the primary route of VFR.
- 7.3.6 Handoff from/to Hong Kong Zone (VHHH_Z_APP), or any online controllers who is responsible for this area may be established. Refer to Appendix B.
- 7.3.7 For VFR route Shenzhen ↔ VHHH, to avoid unnecessary change of frequencies, handoff from/to Hong Kong Tower (VHHH_N_TWR), if online or Hong Kong Tower (VHHH_S_TWR), if offline, may be established.

Virtual Air Traffic Simulation Network (VATSIM)

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Figure 7.1: Oil Support Helicopter Routes in Hong Kong FIR (Source: Hong Kong AIP ENR3.4-Heli-1)



Figure 7.2: Area chart-Guangzhou and Zhuhai (Source: China AIP ENR2.2.2.4)



8. HANDOFF ALTITTUDES AT TRANSFER OF CONTROL POINTS (TCP) for IFR flights

8.1 Class G Airspace Beneath Hong Kong TMA – Zhuhai TMA

TCP	Route	Direction (From – To)	Altitudes (FLAS)
ROMEO ¹	Track D	Transiting ZGZU – Transiting VHHK	1200m (4000ft),
			1800m (6000ft) ²
		Transiting VHHK – Transiting ZGZU	1500m (5000ft)

Remarks:

¹This TCP is for Helicopter or rather General Aviation aircraft **ONLY**. Hong Kong airspace at this altitude is Class G (uncontrolled), so aircraft may be handed directly to Unicom. Under coordination, the aircraft may be handed to Hong Kong Radar/Approach for traffic information purposes (see Appendix B). ²This altitude may be used subject to coordination.

8.2 Hong Kong Departure/Approach - Zhuhai TMA

ТСР	Route	Direction (From – To)	Altitudes (FLAS)
BEKOL	-	Departing VHHH – Landing ZGSZ ¹	1800m
	A461	Departing VHHH – Landing ZGGG	Primary S0420
			Secondary S0450
TAMOT	W68	Transiting VHHK – Landing ZGGG	Primary S0450
			Secondary S0420
LKC	-	Departing ZGSZ – Transiting VHHK ²	6000ft

Remarks:

¹Aircraft landing ZGSZ arriving from other airports should route via LANDA.

²When Hong Kong airspace is congested, traffic should reroute via SIERA. See section 7.2.

8.3 Macau Radar Control - Zhuhai TMA

ТСР	Route	Direction (From – To)	Altitudes (FLAS)
LANDA	-	Transiting VHHK – Landing ZGSZ	S0330
SESAN ¹	Track H	Transiting ZGZU – Transiting VHHK	1500m (5000ft)
(星山)		Transiting VHHK – Transiting ZGZU	1200m (4000ft)

Remarks:

¹This TCP is for Helicopter or rather General Aviation aircraft **ONLY**.



8.4 Terminal Radar West (TMW) – Zhuhai TMA

ТСР	Route	Direction (From – To)	Altitudes (FLAS)
SIERA	-	Departing ZGSZ – Transiting VHHK	F120

8.5 Hong Kong Departure/Approach - Guangzhou CTA

ТСР	Route	Direction (From – To)	Altitudes (FLAS)
BEKOL	A461	Departing VHHH – Transiting ZGZU	S06901

Remarks:

¹Aircraft can be handed off when climbing but must be above 4800m (FL157).

8.6 Terminal Radar West (TMW) - Guangzhou CTA

TCP	Route	Direction (From – To)	Altitudes (FLAS)
SIERA	R473	Transiting ZGZU – Landing VHHH	F190, F210, F230

8.7 Area Radar West (TRW) - Guangzhou CTA

ТСР	Route	Direction (From – To)	Altitudes (FLAS)
BEKOL	A461	Transiting VHHK – Transiting ZGZU	S0890, S0950, S1010, S1070, S1130, S1190
TAMOT	B330	Transiting ZGZU – Transiting VHHK	S0840, S0920, S0980, S1040, S1100, S1160, S1220 ¹
		Transiting ZGZU – Landing VHHX	F280 ²
SIERA	R473	Departing ZGGG – Transiting VHHK	F230, F250

Remarks:

¹Odd altitudes may be used with coordination to avoid unnecessary climb/descent.

²Lower altitudes may be used with coordination to allow direct handoff with VHHH_APP.



8.8 Area Radar West (TRW) - Sanya CTA (Island)

ТСР	Route	Direction (From – To)	Altitudes (FLAS)
SIKOU	A202	Hong Kong CTA – Landing ZJSY	S0840
		Hong Kong CTA – Sanya FIR	S1040, S1160,
		beyond ASSAD	S1220
		Departing ZJSY – Hong Kong FIR	S0810, S0890
		Sanya CTA beyond ASSAD – Hong	S1010, S1070,
		Kong FIR	S1130, S1190,
			S1250
	R339	Hong Kong FIR – Sanya CTA	S0980, S1040,
		beyond WUY	S1100, S1160,
			S1220

8.9 Area Radar West 1 (TW1) - Sanya CTA (Oceanic)

TCP	Route	Direction (From – To)	Altitudes (FLAS)
IKELA	P901/A1	Hong Kong FIR – Sanya CTA	F280, F300, F340, F380, F400 and F430
		Sanya CTA – Hong Kong FIR	F270, F290, F330, F370, F390, F410 and F450

8.10 Area Radar West 2 (TW2) - Sanya CTA (Oceanic)

ТСР	Route	Direction (From – To)	Altitudes (FLAS)
EPKAL	L642	Hong Kong FIR – Sanya CTA	F280, F310, F320,
			F350, F360, F390
			and F400
DOSUT	M771	Sanya FIR – Hong Kong CTA	F270, F310, F320,
			F350, F360, F390
			and F400



8.11 Area Radar East (TRE) - Shantou TMA

ТСР	Route	Direction (From – To)	Altitudes (FLAS)
DOTMI	A470	Departing ZGOW – Hong Kong FIR	S0420
		Hong Kong FIR – Landing ZGOW	S0450

8.12 Area Radar West (TRW) - Nanning CTA

ТСР	Route	Direction (From – To)	Altitudes (FLAS)
SIKOU	A202	Departing ZJHK – Hong Kong FIR	S0630
		Hong Kong FIR – Landing ZJHK/ZJQH	S0660, S0720
	R339	Hong Kong FIR – Landing ZGNN/ZGBH ¹	S0720, S0780

Remarks:

¹Aircraft flying ZGNN/ZGBH to VHHK should route via ZGZU and SIERA.

8.13 Area Radar West (TRW) – Zhanjiang TMA

ТСР	Route	Direction (From – To)	Altitudes (FLAS)
SIKOU	R339	Zhanjiang TMA – Hong Kong FIR	S0570
		Hong Kong FIR – Landing ZGZJ	S0600

8.14 Area Radar East (TRE) - Xiamen CTA

ТСР	Route	Direction (From – To)	Altitudes (FLAS)
DOTMI	A470	Xiamen CTA – Hong Kong FIR	S0660, S0720, S0780
		Hong Kong FIR – Landing ZSAM/ZSQZ	S0510, S0630, S0750
		Hong Kong FIR – Landing ZSFZ/ZSWY/ZSWZ	S0630, S0750



8.15 Area Radar East (TRE) - Shanghai CTA (South)

ТСР	Route	Direction (From – To)	Altitudes (FLAS)
DOTMI	A470	Shanghai CTA – Landing VHHH/VMMC	F280, F300
		Shanghai CTA – Transiting VHHK	F280, F300, F360, F380
		Hong Kong FIR - Landing ZSHC/ZSYW/ZSNB	S0810, F330
		Hong Kong FIR – Other Airports	S0810, F330, F350, F390
LELIM	M503	Departing ZSPD/ZSQD/ZSYT/ZYTL – Landing VHHH	F300
		Departing VHHH/VMMC – Landing ZSPD/ZSQD/ZSYT/ZYTL	F330, F350



9. VHHK HANDOFF ALTITTUDES AT TRANSFER OF CONTROL POINTS (TCP) for VFR flights

- 9.1 TCP: Jiuzhou VOR (ZAO)
 - 9.1.1 From Guangzhou FIR to Hong Kong FIR

150m/500ft or below when Hong Kong runway 07s in use 250m/800ft or below when Hong Kong runway 25s in use

9.1.2 From Hong Kong FIR to Guangzhou FIR 300m/1000ft or below

9.2 TCP: Lung Kwu Chau VOR (LKC)

- 9.2.1 From Guangzhou FIR landing Hong Kong airport 300m/1000ft or below
- 9.2.2From Hong Kong airport to Guangzhou FIR 300m/1000ft or below

9.3 TCP: SESAN (Xing Shan/星山)

- 9.3.1 From Guangzhou FIR to Hong Kong FIR 600m/2000ft or below
- 9.3.2 From Hong Kong FIR to Guangzhou FIR 600m/2000ft or below

9.4 TCP: DAPENG (Da Peng/大鹏)

- 9.4.1 From Guangzhou FIR to Hong Kong FIR 600m/2000ft or below
- 9.4.2 From Hong Kong FIR to Guangzhou FIR 600m/2000ft or below



10. COORDINATION PROCEDURES FOR MACAU INTERNATIONAL AIRPORT (VMMC)

10.1 This section shall define the ATC coordination procedures for departure and arrival into and out of Macau International Airport (VMMC) on VATSIM.

10.2 <u>General</u>

10.2.1 Aerodrome control of Macau International Airport (delivery (DEL), ground (GND), and tower (TWR)) shall be under the jurisdiction of Hong Kong VACC of the Southeast Asia Division (VATSEA). The ATC service of such positions shall be provided by Hong Kong VACC controllers.

10.2.2 Terminal ATC service of departure and arrival aircraft into and out of Macau Airport (VMMC) shall be shared between Hong Kong Departure/Approach/Radar (Macau Radar Control sector) and Zhuhai Approach depending on the SID, STAR, and IAP of a specific flight.

10.2.3 Macau Tower (VMMC_TWR), or any online controllers who is responsible for the tower control service at Macau (VMMC), is responsible for ensuring all activities within ATZ Macau (SFC/ 3000ft AMSL) do not deviate into Zhuhai Terminal Airspace unless prior coordination with Zhuhai Approach (ZGJD_APP) is performed.

10.2.4 Unless otherwise stated, controllers shall observe the rules and procedures within the AIP of Macau and AIP of Mainland China ENR 2-2. Controllers shall also ensure that pilots of flight departing from or arriving into Macau (VMMC) comply with the rules and procedures per the AIP of Macau unless prior coordination is made.

10.2.5 As per AIP of Mainland China, ENR 2.2 Section 2.3.2, altimeter setting of aircraft departing and arriving at VMMC in Zhuhai Terminal Airspace shall be as follows:

10.2.5.1 When the aircraft is at VMMC prior to takeoff, the altimeter setting shall set to the QNH of VMMC.

10.2.5.2 After departure, when the aircraft enters Zhuhai Terminal Airspace, the altimeter shall be set to Zhuhai Terminal Airspace QNH by instruction of Zhuhai Approach (ZGJD_APP)

10.2.5.3 Altimeter shall be set to 1013.2hPa upon passing the transition altitude of Zhuhai Terminal Airspace (2700m on QNH).

10.2.5.4 While operating as local flight within Zhuhai Terminal Area, Zhuhai Approach may instruct the aircraft to set altimeter to either the Zhuhai Terminal QNH or VMMC QNH.



10.2.6 When Zhuhai Approach (ZGJD_APP) or Macau Radar Control (VMMC_APP) is not online, controllers should refer to Appendix B to see which position takes over its coverage. If the sectorization deviates from the standard listed, controllers must coordinate this through private message or ATC channels.

10.2.7 Controller covering Macau Airport should advise neighboring controllers when a change of runway has occurred via controller chat or private message if necessary.

- 10.3 Procedure for Arrival Flights of Macau International Airport (VMMC)
 - 10.3.1 Zhuhai Approach shall be responsible for arrival flights that fly the Standard Terminal Arrival Route (STAR):
 - 1. Runway 16
 - a) **BIGRO*A, CON*A, POU*A** until established on MCS LOC (LOC/DME approach) or reaching MC510 (RNAV-GNSS).
 - b) INDUS of CHALI*B, SMT*B until established on MCS LOC (LOC/DME approach) or reaching MC510 (RNAV-GNSS).
 - 2. Runway 34
 - a) **BIGRO*A** until ROMEO.
 - b) **CON*A, POU*A, NLG*A** until Macau VOR (MCU).
 - 10.3.2 Hong Kong Radar (Macau Radar Control sector) shall be responsible for arrival flights that fly the Standard Terminal Arrival Route (STAR):
 - 1. Runway 16
 - a) CHALI*B, SMT*B until INDUS
 - 2. Runway 34
 - a) CHALI*A, SMT*A
 - b) **BIGRO*A** after ROMEO
 - c) CON*A, POU*A, NLG*A after Macau VOR (MCU).
 - 10.3.3 Per the AIP of Macau S.A.R., arrival flights shall not exceed 250 knots IAS while flying below FL110 (3300m)
 - 10.3.4 Controllers shall refer to ENR 1.5 Section 3 of the Macau AIP and ENR 2.2.2.3 Section 3 of the China AIP for a full list of TCP points and their respective altitude for VMMC arrival.

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Flight			Transfer of control			3.
Procedures	Transferring ATCU	Accepting ATCU	Point/Position	Altitude		Tr
	Zhuhai	Hong Kong	ROMEO	6000 ft		ansi
RWY 34	Zhuhai	Hong Kong	'MCU' VOR	7000 ft	For traffic from the direction of 'NLG' VOR	er of
Amval	Hong Kong	Macao	As soon as aircraft established on 'MCN' ILS	Appropriate profile altitude		Contro
RWY 34 Departure or	Macao	Zhuhai	Initial right turn after DEP/MAP	900 m or below		ol Poin
Missed Approach	Zhuhai	Hong Kong	'LKC' VOR	6 000 ft	Reach 6 000 ft by 'LKC' VOR.	ts
RWY 16	Hong Kong	Zhuhai	INDUS	2 700 m	For traffic from Hong Kong FIR to Macao via Zhuhai airspace.	
Arrival	Zhuhai	Macao	As soon as aircraft established on 'MCS' LLZ	3 000 ft or below	For all arrivals	
RWY 16	Macao	Hong Kong	As soon as practicable after departure and before enter Hong Kong FIR, climbing to assigned SID altitude	3 000 ft or below	For SIDs transiting HK FIR via PAPA, HK ATC shall not climb aircraft above 4000 ft until PAPA, unless otherwise co-ordinated and agreed with Zhuhai Approach.	
Departure	Hong Kong	Zhuhai	Common FIR boundary between Hong Kong and Zhuhai	1 800 m or below	Climbing to 1800 m for aircraft on SHL/ NLG SIDs, climbing to 1500 m for aircraft on BIGRO SID, unless otherwise co-ordinated and agreed with Zhuhai Approach.	
	Macao	Hong Kong	Crossing 'MCU' VOR climbing to 4 000 ft	3 000 ft or below		
RWY 16 Missed Approach	Zhuhai	Hong Kong	Crossing 'MCU' VOR climbing to 4 000 ft	4 000 ft or below	For missed approach traffic under control of Zhuhai APP	
	Hong Kong	Zhuhai	INDUS	1 800 m		1

Figure 9.1: Transfer of Control Points for VMMC Airport (Source: Macau AIP ENR1.5-2)

3.1 澳门机场 34 号跑道进场 3.1 Arrival of Macao RWY34 CON-6A, NLG-5A, NLG-7A, POU-6A, POU-8A: Zhuhai CON-6A、NLG-5A、NLG-7A、POU-6A、POU-8A: 珠 Approach transfers to Hong Kong at Macao VOR; 海进近向香港管制交接点为澳门 VOR; BIGRO-6A、BIGRO-7A:珠海进近向香港管制交接点 BIGRO-6A, BIGRO-7A: Zhuhai Approach transfers to Hong 为 ROMEO 点; Kong at point ROMEO; 复飞: 澳门向珠海进近管制交接点为复飞后开始右转 Missed approach: Macao transfers to Zhuhai Approach when 弯时;珠海进近向香港管制交接点为 R040° ZAO/ aircraft turning right; Zhuhai Approach transfers to Hong Kong D12.5 MCU 或 MC420。 at R040° ZAO/D12.5 MCU or MC420. 3.2Departure of Macao RWY34 3.2 澳门机场 34 号跑道离场 澳门向珠海进近管制交接点为起飞后开始右转弯时; Macao transfers to Zhuhai Approach when aircraft turning right after take-off; 珠海进近向香港管制交接点参阅澳门 AIP 相关程序。 The point Zhuhai Approach transfers to HongKong refer related SID of Macao AIP. 3.3 Arrival of Macao RWY16 3.3 澳门机场 16 号跑道进场 SMT-4B/5B、CHARLIE-3B/4B: Hong Kong transfers to SMT-4B/5B、CHALI-3B/4B: 香港向珠海进近管制交 Zhuhai Approach at point INDUS; 接点为 INDUS 点; Zhuhai Approach transfers to Macao at LATOP or MC510; 珠海进近向澳门管制交接点为 LATOP 或 MC510; Missed approach: Hong Kong transfers to Zhuhai Approach 复飞:在 INDUS 点前香港向珠海进近管制交接。 before point INDUS. 3.4 澳门机场 16 号跑道离场 3.4 Departure of Macao RWY16 When crossing the boundary of FIRs, Hong Kong transfers to 在过飞行情报区边界时,香港向珠海进近管制交接。 Zhuhai Approach.

Figure 9.2: Transfer of control points of VMMC Airport (Source: China AIP ENR2.2.2.3-3)



10.4 Procedure for Departure Flights from Macau International Airport (VMMC)

- 10.4.1 Zhuhai Approach (ZGJD_APP) is responsible for all departure flights of runway 34 that enter Guangzhou FIR immediately after takeoff. Macau Tower (VMMC_TWR), or the controller who is responsible for tower control at Macau (VMMC), must obtain a release from Zhuhai Approach before clearing departures for takeoff. They shall then handover such flights upon leaving Macau tower airspace (ATZ Macau (SFC/ 3000ft AMSL)). Zhuhai Approach shall handover traffic to Hong Kong Approach when reaching Lung Kwu Chau VOR (LKC) for Standard Instrument Departures (SID) ALLEY*, CONGA*, GRUPA*, SOUSA*.
- 10.4.2 Hong Kong Radar (Macau Radar Control sector) is responsible for all departure flights of runway 16 that enter Hong Kong FIR immediately after takeoff. The controller who is responsible for the sector shall handover traffic to Zhuhai Approach when reaching common FIR boundary or Macau VOR if using the Standard Instrument Departure (SID) of SHL*D, BIGRO*D, NLG*D, MIPAG*D.
- 10.4.3 Per the AIP of Macau S.A.R., flights departing from runway 34 of Macau International Airport (VMMC) shall not overshoot Jiuzhou VOR (ZAO) due to noise abatement for Zhuhai.
- 10.4.4 Controllers shall refer to ENR 1.5 Section 3 of the Macau AIP for a full list of TCP points and their respective altitude for departure from VMMC.
- 10.5 Initial Altitude for Departure Flights from Macau International Airport (VMMC)
 - 10.5.1 Runway 34 departure
 - 10.5.1.1 To Lung Kwu Chau VOR (LKC) 6000ft
 - 10.5.1.2 To other Guangzhou directions 1200m
 - 10.5.2 Runway 16 departure
 - 10.5.2.1 To BIGRO 1500m
 - 10.5.2.2 To other Guangzhou directions 1800m
 - 10.5.2.3 To Hong Kong direction 4000ft

10.6 Procedure in the absence of Zhuhai Approach

- 10.6.1 This section shall define responsibility of control when both **Zhuhai Approach** and **Guangzhou Control** are offline. This deviates from the AIP of Macau as the absence only takes place on an online network.
- 10.6.2 **RWY 34 Departure towards LKC –** After takeoff, Macau Tower shall instruct aircraft with the following phraseology: "<callsign>, leaving controlled airspace, monitor Unicom 122.8, report passing LKC VOR on <next controller frequency>."



- 10.6.3 RWY 16 arrival via INDUS Upon reaching INDUS, Hong Kong Radar (Macau Sector) shall instruct aircraft with the following phraseology: "<callsign>, leaving controlled airspace, monitor Unicom 122.8, report established on the localizer runway 16 on <next controller frequency>."
- 10.6.4 Handoff can also be directly conducted from **Guangzhou Approach** to Hong Kong Approach or Hong Kong Radar (Macau Radar Control sector) when leaving Guangzhou Approach airspace and approaching Nanlang VOR (NLG) if **Guangzhou Approach (ZGGG_APP)** online. Altitude should be given according to the STAR.
- 10.6.5 Hong Kong Radar (Macau Radar Control sector), or Hong Kong Approach (VHHH_APP) when Hong Kong Radar is offline, is responsible for all VMMC departure and arrival traffic except runway 34 departure to Guangzhou FIR.
- 10.7 Procedure in the absence of Hong Kong ATC
 - 10.7.1 This section shall define responsibility of control when both Hong Kong Approach and Hong Kong Radar (Macau Radar Control sector) are offline. This deviates from the AIP of Macau as the absence only takes place on an online network.
 - 10.7.2 **RWY 34 arrival** Zhuhai Approach shall instruct aircraft to monitor UNICOM (122.800) upon reaching waypoint ROMEO or MCU VOR.
 - 10.7.3 RWY 34 missed approach Macau Tower (if online) shall instruct traffic on missed approach to tune to Zhuhai Approach after initial right turn. If Macau Tower is offline, traffic shall contact Zhuhai Approach after initial right turn. After passing LKC VOR or MC615, Zhuhai Approach shall instruct the aircraft to monitor UNICOM (122.800).
 - 10.7.4 **RWY 16 arrival via INDUS** Traffic shall contact Zhuhai Approach upon crossing INDUS. After established on MCS LOC (LOC/DME approach) or reaching MC510 (RNAV-GNSS) Zhuhai Approach may instruct the aircraft to:
 - 10.7.4.1 Monitor UNICOM (122.800) if Macau Tower is offline; or,
 - 10.7.4.2 Contact Macau Tower if it is online.
 - 10.7.5 RWY 16 departure for SIDs entering Zhuhai Terminal Airspace, Macau Tower shall directly handoff to Zhuhai Approach after departure. If Macau tower is offline, traffic shall contact Zhuhai Approach immediately after initial right turn.



10.7.6 **RWY 16 missed approach** – Traffic shall contact Zhuhai Approach upon passing INDUS.

11. SPECIAL AGREEMENT ON R200 AIRWAY

- 11.1 Considering there are differences between the depiction of the eastern end of the boundary line in the AIP of Hong Kong and that in the AIP of Mainland China, this section shall describe in detail the definition to be observed on VATSIM regarding the control of R200 airway.
- 11.2 Under the AIP of Hong Kong, the Hong Kong FIR-Guangzhou FIR extends along the coast in the northeastern part of Hong Kong FIR and the eastern part of Hong Kong, until reaching the boundary of Taipei FIR (shown in Figure 10.1). However, in the AIP of Mainland China, the boundary is located south of the coast and R200 (shown in Figure 10.2), indicating that R200 airway is entirely within Guangzhou FIR.
- 11.3 To follow real-world operation, and to avoid unnecessary handoffs, the definition of the boundary line in the area in question shall follow the definition in the AIP of Mainland China (ENR 6-ERC2). Therefore, R200 from SUMDO-OLMID shall fall within Guangzhou FIR/Xiamen CTA/Shanghai CTA and under the control of Shanghai Control when above 7800m or Xiamen Control when at or below 7800m.



Figure 10.1: Hong Kong FIR-Guangzhou FIR boundary as shown in Hong Kong AIP ENR6.1 (AMD 03/15).



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Figure 10.2: Hong Kong FIR-Guangzhou FIR boundary as shown in Mainland China AIP ENR6 ERC (2022 No. 6).



Figure 10.3: Adapted Hong Kong FIR-Shanghai/Xiamen CTA Boundary in Hong Kong sector file.

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12. VALIDITY, REVIEW AND AMENDEMENT

12.1 This Letter of Agreement becomes valid and takes immediate effect upon the approval of the Division Director (VATPRC1) of the People's Republic of China Division (VATPRC), the Division Director (VATSEA1) of the Southeast Asia Division (VATSEA), and the Director-General of Hong Kong Virtual Area Control Centre (HK vACC).

12.2 Should there be any changes to real-world procedures made by the local authorities, both parties shall decide whether an amendment to this LOA is necessary.

12.3 A content review of this LOA shall take at most six (6) months after this LOA takes effect. During the review, both parties shall convene to discuss the implementation of this LOA and make proper amendments to it if necessary. Subsequent content review shall take place at most every six (6) months henceforth.

12.4 Any parties wishing to amend this LOA (by adding, omitting or changing any clauses) shall contact the other party to call for an immediate review of the LOA. Both parties must reach a consensus on any amendments before they take effect. Subsequent content review shall take place at most every six (6) months henceforth.

This Letter of Agreement is approved on 22 April, year 2023:

(Signed Electronically)

Chang Ma Division Director VATPRC

(Signed Electronically)

Eugene Lee Division Director VATSEA

(Signed Electronically)

Jaik Patidar Director Hong Kong vACC



APPENDIX A: REFERENCES

Aeronautical Information Publication of Hong Kong Special Administrative Region, published by the Hong Kong Civil Aviation Department.

Aeronautical Information Publication of People's Republic of China, published by the Civil Aviation Administration of China.

Aeronautical Information Publication (Publicações de Informações Aeronáuticas) of Macau Special Administrative Region published by the Civil Aviation Administration of Macau S.A.R. (Autoridade de Aviação Civil da RAEM)

ICAO Doc 4444



APPENDIX B: SECTOR OWNERSHIP PRIORITY

Positions on the right take over positions on the left if they are offline.

B1. Hong Kong FIR Pos	sitions							
Area Radar East (TRE) – DOTMI, LELIM								
			HKG_I	E_CTR				
Area Radar West (TR	W) – SIł	KOU, S	SIERA*, T	AMOT*, B	EKOL	*		
*FL250 or above only								
HKG_W_CTR HKG_E_CTR								
Area Radar West 1 (T	' W1) – Ił	KELA						
HKG_W1_CTR HKG_W_CTR HKG_E_CTR								
Area Radar West 2 (T	' W2) – E	PKAL,	DOSUT					
HKG_W2_CTR	HK	G_W1_	_CTR	HKG	6_W_C	TR		HKG_E_CTR
Terminal Radar West FL120 – FL250 only	(TMW)	– SIEF	RA					
VHHH_W_APP VH	HH_E_	APP	HKG_\	V_CTR	HK	G_E_CT	R	VHHH_APP
Macau Radar Control (MCR) – LANDA, MCU, ROMEO**								
below FL120 only **Hel	i/GA Rou	te						
VMMC_APP			VHHF	I_APP			HK	G_E_CTR
Macau ATZ – ZAO* *Heli/GA Routes only								
VMMC_TWR		MMC_/	APP	VHI	HH_AF	ЪЪ		HKG_E_CTR
Hong Kong Approacl FL120 or below only	n – LKC			<u> </u>				
VHHF	I_APP					HKG_E	E_CT	R
Hong Kong Departure below FL250 only	e – BEK	OL, TA	MOT					
VHHH_H_DEP	VI	HHH_C	DEP	VHI	HH_AF	ЪЪ		HKG_E_CTR
Hong Kong ATZ / Hong Kong Zone – LKC* * VFR Heli/GA Routes only								
VHHH_N_TWR* VHHH_S_TWR* VHHH_Z_APP VHHH_APP HKG_E_CTR								
*to avoide unnecessary han	dover, dir	ecty to H	long Kong	Fower is allo	wed			
Uncontrolled Airspace – SESAN*, DAPENG* * Heli/GA Routes only								
UNICOM	UNICOM HKG_E_CTR* VHHH_APP*							
*Traffic information only, prior coordination is required								

Page 26 of 28

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B2. VATPRC Positions								
Guangzhou CTA – BEKOL, TAMOT								
ALL above 4500m only								
ZGGG_CTR		ZGZU_CTR				PRC_FSS		
Zhuhai TMA – BEKOL, LANDA, LKC, ROMEO**, ZAO**, SESAN**, DAPENG**, LKC**								
ALL 4500m or below only **Heli/GA Route								
ZGJD_APP			ZGGG	J_CTR		ZGZU_CTR		
Shanghai CTA (South) – DOTMI, LELIM								
ALL above 7800m only								
ZSSS_S_CTR	ZSSS_CTR			ZSHA_CT		R	PRC_FSS	
Xiamen CTA – DOTMI								
ALL 7800m or below only								
ZSAM_CTR				ZSHA_CTR				
Shantou TMA – DOTMI								
ALL 4500m or below only								
ZGOW_APP Z	W_APP ZGGG_CTR ZGZU				CTR ZSAM_CTR Z			ZSHA_CTR
Sanya CTA (Island) – SIKOU								
ALL above 7800m only								
ZJSY_L_CTR			ZJSA_CTR			PRC_FSS		
Sanya CTA (Oceanic) – IKELA, EPKAL, DOSUT								
ZJSY_O_CTR			ZJSA_CTR			PRC_FSS		
Nanning CTA – SIKOU								
ALL 6000-7800m only								
ZGNN_CTR				ZGZU_CTR				
Zhanjiang TMA – SIKOU								
ALL 6000m or below only								
ZGZJ_APP	ZGNN_CTR			ZGZU_CTR				



APPENDIX C: RECORD OF REVISIONS

Nil