

Letter of Agreement (LOA)

Between

**Guangzhou FIR (ZGZU), People's Republic of China Division
(VATPRC)**

and

**Hong Kong FIR (VHHK),
Southeast Asia Division (VATSEA)**

Revision: 0



Effective Date: 18 APR 2015

1. PURPOSE

1.1 - This Letter of Agreement (LOA) establishes standard procedures and coordination responsibilities of air traffic control between Guangzhou FIR (ZGZU), People's Republic of China Division (VATPRC) and Hong Kong FIR (VHHK), 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 Administration 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 - En-route control (CTR) of both parties shall keep traffic away from the **5 nautical miles (nm) margin** of the boundary between Hong Kong FIR (VHHK) and Guangzhou FIR (ZGZU) 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 - 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.

6.1.2.1 – As per ENR 2.2 Section 4.4 of AIP of Mainland China, “for aircraft flying between Guangzhou FIR and Hong Kong FIR at same level and on same route, minimum **longitudinal separation** shall be **10 minutes** when aircraft crossing the transfer of control point.”

6.1.2.2 - As per ENR 2.2 Section 4.5 of AIP of Mainland China:

“For aircraft arriving at or departing from Macao at same level and on same route

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

Departure: **Minimum longitudinal separation shall be 5 minutes** when aircraft crossing the transfer of control point between Macao and Zhuhai Approach.”

6.1.3 - 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)** from the TCP.

6.1.4 - Conversion of altitude measurement unit shall be performed according to Section 7 of this document prior to handoff.

6.1.5 - **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.

6.1.6 - Proper liaison between Hong Kong FIR and Guangzhou FIR shall be established for handover. **Controllers shall advise the requested cruising**

level (i.e. the altitude at which the aircraft will be flying during the handover) of a particular aircraft prior entering neighbouring 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. Controller may request an altitude different from the ones specified in Section 7 of this LOA document from the receiving controller with prior coordination.

6.1.7 - Controller covering major aerodromes should advise neighboring controllers when a change of flow has occurred via controller chat or private message if necessary.

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 - En-route 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 Guangzhou FIR and Hong Kong FIR 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 - Unless otherwise specified, all handovers shall be conducted between two en-route controllers (CTR). Exceptions to this rule are as follows:

- (a) *The aircraft crossing the boundary is departing from Hong Kong International Airport (VHHH) and entering Guangzhou FIR via fix **BEKOL**;*
or,
- (b) *The aircraft crossing the boundary is arriving into Hong Kong International Airport (VHHH) from Guangzhou FIR via fix **SIERA**;* or,
- (c) *The aircraft crossing the boundary is arriving into Hong Kong Kaitak Airport (VHHX) from Guangzhou FIR via fix **TAMOT**;* or,
- (d) *The aircraft crossing the boundary is departing from Shenzhen Baoan International Airport (ZSGZ) and entering Hong Kong FIR via fix **SIERA** and **VOR LUNGKWUCHAU (LKC)**;* or,
- (e) *The aircraft crossing the boundary is arriving into Shenzhen Baoan International Airport (ZGSZ) from Hong Kong FIR via fix **BEKOL**.*

Under situations (a), (b), and (c), handoff between Guangzhou Control (ZGZU_CTR) and Hong Kong Approach/Departure (VHHH_APP/DEP) may be established. Under situations (d) and (e), handoff between Zhuhai Approach and Hong Kong Radar may be established.

7. HANDOFF ALTITUDES AT TRANSFER OF CONTROL POINTS (TCP)

(Reference: Hong Kong AIP ENR 1.8)

7.1 - **A461** Airway (TCP: **BEKOL**)

7.1.1 - Departing Hong Kong (**VHHH**) -Landing Guangzhou (**ZGGG**):
Primary **S0420**; Secondary **S0450**.

7.1.2 - Departing Hong Kong (**VHHH**) -Transiting Guangzhou FIR:
S0690

7.1.3 - Transiting Hong Kong FIR and Guangzhou FIR:
S0890², S0950, S1010, S1070, S1130, S1190

7.1.4 – Arriving into Shenzhen Baoan Airport (ZGSZ):
S0240¹

Remarks:

¹Hong Kong controllers shall initiate the descent of those flights arriving into Shenzhen Baoan Airport (**ZGSZ**) via **BEKOL** STARs accordingly

²This altitude may be used without prior coordination even though the AIP of Mainland China requires so.

7.2 - **B330** Airway (TCP: **TAMOT**)

7.2.1 -Transiting Hong Kong and Guangzhou FIR
S0840, S0920, S0980, S1040, S1100,S1160, S1220¹.

Remarks:

¹This altitude may be used without prior coordination even though the AIP of Mainland China requires so.

7.3 - **W68** Airway (TCP: **TAMOT**)

7.3.1 - Transiting Hong Kong FIR– Landing Guangzhou (**ZGGG**):
Primary **S0450**, Secondary **S0420**

7.3.2 – Landing Kaitak Airport (**VHHX**):
Subject to ATC Coordination.

7.4 - **R473** Airway (TCP: **SIERA**)

7.4.1 - Transiting Guangzhou FIR– Landing Hong Kong (**VHHH**)
F190, F210, F230

7.4.2 – Departing Guangzhou Airport (**ZGGG**) – Transiting Hong Kong FIR:
F230, F250

7.5 - **A470** Airway (TCP: **DOTMI**)

7.5.1 - Transiting Guangzhou FIR– Landing Hong Kong (**VHHH**) or Macao (**VMMC**)
S0660, S0720, S0780, F280, F320.

7.5.2 - Transiting Guangzhou FIR and Hong Kong FIR
S0660, S0720, S0780, F280, F320, F360, F380.

7.5.3 – Departing Shantou (ZGOW) – Landing Hong Kong (**VHHH**) or Macao (**VMMC**)
S0420

7.5.4 - Exit Hong Kong FIR

7.5.4.1 –

Landing Xiamen (**ZSAM**) or Jinjiang (**ZSQZ**)

S0690, S0750.

7.5.4.2 - Landing Fuzhou (**ZSFZ**) or Wuyishan (**ZSWY**)

S0690, S0750, S0810, F290.

7.5.4.3 – Landing Shantou/Jeyang (**ZGOW**)

S0450

7.5.4.4 - Aerodromes other than those listed above

F290, F330, F350, F390.

7.6 - **A202** Airway (TCP: **SIKOU**)

7.6.1 - Departing Haikou (**ZJHK**), entering Hong Kong FIR

S0630

7.6.2 - Departing Sanya (**ZJSY**), entering Hong Kong FIR

S0810, S0890

7.6.3 - Points beyond **ASSAD**, entering Hong Kong FIR

S1010, S1130, S1190

7.6.4 - Landing Haikou (**ZJHK**), exiting Hong Kong FIR

S0660, S0720

7.6.5 - Landing Sanya (**ZJSY**), exiting Hong Kong FIR

S0840

7.6.6 - Points beyond **ASSAD**, exiting Hong Kong FIR

S1040, S1160, S1220

7.7 **R339** Airway (TCP: **SIKOU**)

7.7.1 - Departing Zhanjiang (**ZGZJ**) to Hong Kong FIR

S0570

7.7.2 - Landing Zhanjiang (**ZGZJ**), exiting Hong Kong FIR

S0600

7.7.3 - Landing Beihai (**ZGBH**) and Nanning (**ZGNN**), exiting Hong Kong FIR

S0720, S0780

7.7.4 - Points beyond Nanning VOR (**WUY**), exiting Hong Kong FIR

S0980, S1040, S1160, S1220

7.8 – Aircraft Departing Shenzhen Airport (**ZGSZ**)

7.8.1 – TCP: **SIERA** and Lungkwuchau VOR (**LKC**)

FL120

8. COORDINATION PROCEDURES FOR MACAU INTERNATIONAL AIRPORT (VMMC)

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

8.2 - General

8.2.1 - Aerodrome control of Macau International Airport (i.e. 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.

8.2.2 – Terminal ATC service of IFR departure and arrival aircraft into and out of Macau Airport (VMMC) shall be shared between VHHH_APP/DEP and Zhuhai Approach (ZGJD_APP) depending on the SID, STAR and IAP of a specific flight.

8.2.3 - 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.

8.2.4 - Unless otherwise stated, controllers shall observe the rules and procedures within the AIP of Macau and AIP of Mainland China, in particular, 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.

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

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

8.2.5.2 – After departure, the altimeter shall be set to Zhuhai Terminal Airspace QNH by instruction of Zhuhai Approach (ZGJD_APP)

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

8.2.5.4 – 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.

8.2.5 – When Guangzhou Control (ZGZU_CTR) but Zhuhai Approach/ Departure (ZGJD_APP/DEP) is not online, Guangzhou Control (ZGZU_CTR) shall be responsible for covering the Zhuhai Terminal Control Airspace. Similar, when Hong Kong Radar

(HKG_CTR) is online but Hong Kong Approach/ Departure (VHHH_APP/ DEP) is not online, Hong Kong Radar (HKG_CTR) shall be responsible for covering the Hong Kong terminal airspace.

8.3 - Procedure for Arrival Flights of Macau International Airport (VMMC)

8.3.1 Zhuhai Approach shall be responsible for arrival flights that fly the following Standard Terminal Arrival (STAR):

Nanlang - NLG*A
BIGRO*A
Conghua – CON*A
Pingzhou – POU*A

8.3.2 Hong Kong Approach shall be responsible for arrival flights who will initial their Standard Terminal Arrival (STAR) through these waypoints:

CHALI*A
Siu Mo To - SMT*A

8.3.3 Per the AIP of Macau S.A.R., arrival flights shall not exceed 250 knots IAS while flying below FL110 (3300m)

8.3.4 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 VMMC arrival.

Flight Procedures	Transfer of control				
	Transferring ATCU	Accepting ATCU	Point/Position	Altitude	
RWY 34 Arrival	Zhuhai	Hong Kong	ROMEO	6000 ft	
	Zhuhai	Hong Kong	'MCU' VOR	7000 ft	For traffic from the direction of 'NLG' VOR
	Hong Kong	Macao	As soon as aircraft established on 'MCN' ILS	Appropriate profile altitude	
RWY 34 Departure or Missed Approach	Macao	Zhuhai	Initial right turn after DEP/MAP	900 m or below	
	Zhuhai	Hong Kong	'LKC' VOR	6 000 ft	Reach 6 000 ft by 'LKC' VOR.
RWY 16 Arrival	Hong Kong	Zhuhai	INDUS	2 700 m	For traffic from Hong Kong FIR to Macao via Zhuhai airspace.
	Zhuhai	Macao	As soon as aircraft established on 'MCS' LLZ	3 000 ft or below	For all arrivals
RWY 16 Departure	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.
	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.
RWY 16 Missed Approach	Macao	Hong Kong	Crossing 'MCU' VOR climbing to 4 000 ft	3 000 ft or below	
	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	

Figure 8.1: Transfer of Control Points for VMMC Airport (Source: Macau AIP ENR1.5-2)

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

8.4.1 Zhuhai Approach (ZGSD_APP) is responsible for departure flights that enter Guangzhou FIR through Zhuhai Terminal Airspace immediately after takeoff. Macau Tower (VMMC_TWR), or the controller who is responsible for tower control at Macau (VMMC), shall handover such flights upon leaving Macau tower airspace (ATZ Macau (SFC/ 3000ft AMSL)). Such flights shall be using the following Standard Instrument Departure (SID):

(note: the asterisk * denotes the most current SID number)

- SHL*D
- BIGRO*D
- NLG*D
- MIPAG*D

8.4.2 Hong Kong Departure (VHHH_DEP) is responsible for all departure flights, IFR and VFR alike, which enter Hong Kong FIR after takeoff. These flights shall not be handed over to Guangzhou FIR controllers. Such IFR flights shall be using the following Standard Instrument Departure (SID):

*(note: the asterisk * denotes the most current SID number and letter)*

ALLEY*

CONGA*

GRUPA*

SOUSA*

8.4.3 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.

8.4.4 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.

8.5 Procedure in the absence of Zhuhai Approach

8.5.1 This section shall define responsibility of control when **Zhuhai Approach (ZGJD_APP)** is offline. This deviates from the AIP of Macau as the absence only takes place on an online network

8.5.2 **RWY 16 IAP from INDUS-** Traffic on LLZ/DME RWY 16 approach (X,Y and Z) and RNAV(GNSS) RWY 16 approach from INDUS remains with Hong Kong Approach (or controller responsible for Hong Kong Approach) until established on MCS LLZ (LLZ/DME approach) or reaching MC510 IF (RNAV-GNSS). Then traffic will be handed off the Macau Tower if online. If missed approach occurs, Macau Tower shall handoff the traffic to Hong Kong Approach to re-direct traffic for approach.

8.5.3 **RWY 16 IAP from NLG and ZUH** – Traffic on LLZ/DME RWY 16 approach (all) and RNAV(GNSS) RWY 16 from NLG and ZUH shall remain on unicom (122.800) until established on MCS LLZ (LLZ/DME approach) or reaching MC510 IF (RNAV-GNSS). Then traffic shall contact Macau Tower (or the controller responsible) for landing clearance. If missed approach occurs, Macau Tower shall handoff the traffic to Hong Kong Approach to re-direct traffic for approach.

8.5.4 **RWY 34 Missed Approach** – Macau Tower shall handoff traffic on missed approach of RWY 34 to Hong Kong Approach (or the controller responsible) after initial right turn.

8.5.5 **RWY 34 Departure to Guangzhou FIR** – Macau Tower shall ask traffic departing RWY 34 to tune to unicom (122.800) after initial right turn.

8.5.6 **RWY 34 Departure to Hong Kong FIR** – Macau Tower shall handoff traffic departing RWY 34 to Hong Kong Approach (or the controller responsible) after initial right turn.

8.6 Procedure in the absence of Hong Kong ATC

- 8.6.1 This section shall define responsibility of control when both **Hong Kong Approach** and **Hong Kong Radar** are offline. This deviates from the AIP of Macau as the absence only takes place on an online network
- 8.6.2 **RWY 34 arrival** – Zhuhai Approach shall instruct aircraft to monitor **unicom (122.800)** upon reaching waypoint **ROMEO** or **MCU VOR**.
- 8.6.3 **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**, Zhuhai Approach shall instruct the aircraft to monitor **unicom (122.800)**.
- 8.6.4 **RWY 16 arrival via IAP** – Traffic shall contact Zhuhai Approach upon crossing **INDUS**. Zhuhai Approach may instruct the aircraft to:
 - 8.6.4.1 Monitor **unicom (122.800)** if Macau Tower is offline; or,
 - 8.6.4.2 Contact Macau Tower if it is online.
- 8.6.5 **RWY 16 departure** – Traffic shall contact Zhuhai Approach when the aircraft enters Zhuhai Terminal Airspace
- 8.6.6 **RWY 16 missed approach on IAP** – Traffic shall contact Zhuhai Approach upon passing **MCU VOR**.

9. SPECIAL AGREEMENT ON R200 AIRWAY

- 9.1 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 details the definition to be observed on VATSIM regarding the control of R200 airway.
- 9.2 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 9.1). However, in the AIP of Mainland China, the boundary is located south of the coast and R200 (shown in Figure 9.2), indicating that R200 airway is entirely within Guangzhou FIR.
- 9.3 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 shall fall within Guangzhou FIR and under the control of Guangzhou Control (ZGZU_CTR).

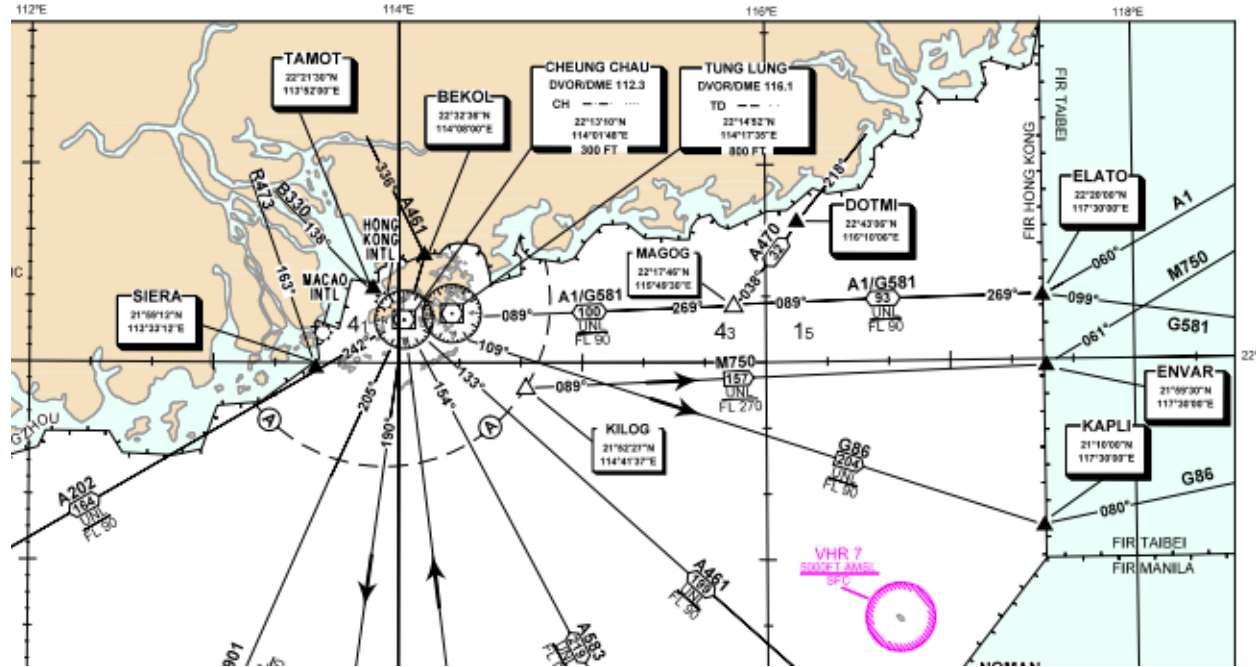


Figure 9.1: Hong Kong FIR-Guangzhou FIR boundary as shown in Hong Kong AIP ENR6.1 (AMD 03/15).

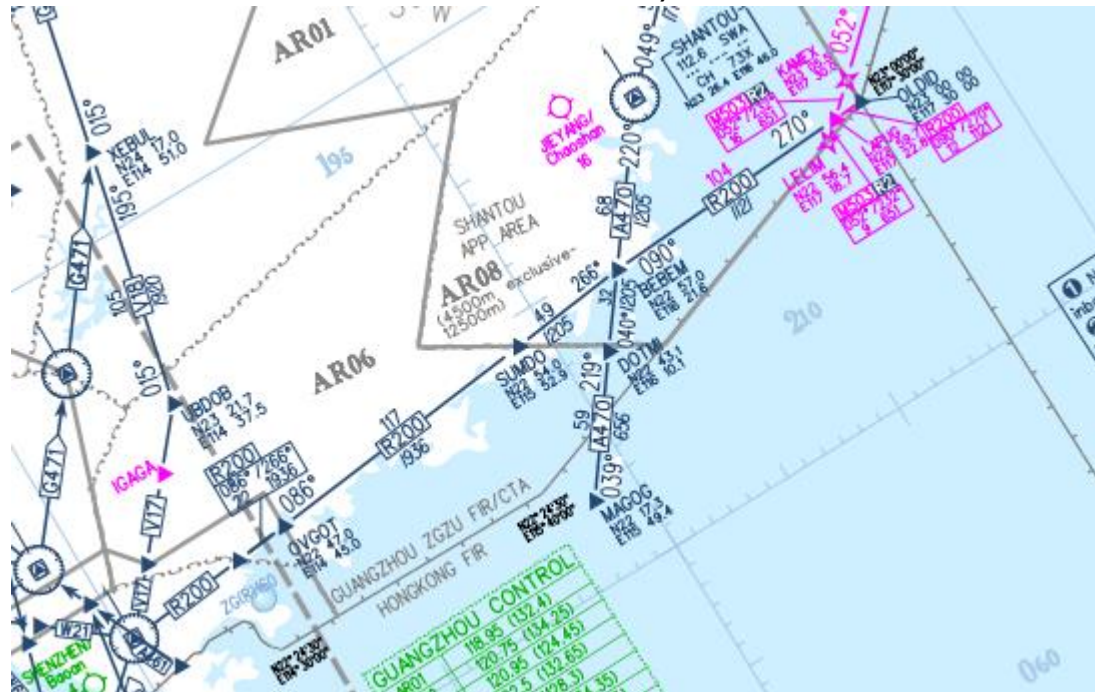


Figure 9.2: Hong Kong FIR-Guangzhou FIR boundary as shown in Mainland China AIP ENR6 ERC2 (2015 No. 5).

10. VALIDITY, REVIEW AND AMENDMENT

10.1 - 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 (HKVACC).

10.2 - 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.

10.3 - A content review of this LOA shall take 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 every six (6) months henceforth.

10.4 - 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 every six (6) months henceforth.

This Letter of Agreement is approved on this 18th day of APRIL, year 2015:

(Signed Electronically)

Yu Xiong
Division Director
VATPRC

(Signed Electronically)

Eugene Lee
Division Director
VATSEA

(Signed Electronically)

Alfred Tang
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

Virtual Air Traffic Simulation Network (VATSIM)

HKVACC Doc No.: HKVACC-LOA-ZGZU-R0

VATPRC Doc No.: NONE

Date Issued: 18 APR 2015

Subject: Letter of Agreement Between Guangzhou FIR and Hong Kong FIR



APPENDIX B: RECORD OF REVISIONS

NIL