VATSIM – Indonesia vACC

General ATC Policy and Guideline Procedures

Version : [3]

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1. Revision and Amendment History

Revision	Date	Description
1	Monday, 9 December 2019	Initial release
2	Thursday, 12 December 2019	Add squawk codes for TMA controller
3	Saturday, 16 March 2024	1. Indonesia FIR Boundaries Update 2. General Procedure (Top-Down Service added, ATIS Usage Priority added and Squawk range update) 3. Delivery Clearance (Limit of clearance given, IFR and VFR clearance new Format) 4. Tower Procedures (Departure and Arrival Procedure added) 5. Type of take-off clearance added and Continue approach procedure added. 6. Missed Approach procedure added. 7. Centre Controller SOP added

2. Introduction

Republic of Indonesia, or often called as Indonesia, is a part of Southeast Asia. Indonesia is the largest island country, with more than 13,000 islands, the 7th largest area (including sea and land) in the world. Indonesia has more than 300 ethnic groups and more than 700 local languages, the most populous Muslim country.

In this document, the general regulations or SOP (Standard Operating Procedure) will list the operation plan to control all airports in Indonesia vACC without a SOP.

3. Indonesia's FIR

Indonesia has 2 Flight Information Regions (FIR); Jakarta FIR and Ujung Pandang FIR. Jakarta FIR controls the western side of Indonesia, and Ujung Pandang FIR controls the eastern side of Indonesia as illustrated below.

Picture 1: Indonesia's FIR

Jakarta FIR covers from Sumatera to central Java, Natuna Islands and West Kalimantan. While Ujung Pandang FIR covers central of Java, South Kalimantan, East Kalimantan, and North Kalimantan, also Bali, Nusa Tenggara, Sulawesi, and Papua.

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4. Policy and Guideline Procedure

4.1 General Procedure

Policy and guideline below will be Indonesia vACC's general ATC policy for all airports. This SOP will be applied regardless any available specific airport SOP. Indonesia vACC will conduct full radar control environment in all controller stations. If controller wish to control using non-general controlling procedure, kindly refer to specific documents for non-general operation (e.g Procedural control, specific airport procedure, etc).

4.1.1 Top-Down Control

All controller (not limited to enroute controller) must provide a full top-down service to all controlled airports within their sector unless there is an operational reason (e.g. sector file limitations) which would hinder their ability to provide a service for example: If there is no DEL and GND controllers, TWR should takeover GND and DEL workload.

4.1.2 ATIS Usage Priority

If there is TWR controller online, TWR should open the ATIS for the airport. If there is no TWR controller is online, the priority to take the ATIS as follows:

1. Tower
2. Approach
3. Centre
4. Ground
5. Delivery

If the controller that operates the ATIS is about to disconnect, coordination must be done with the next ATIS operator based on the priority above.

4.1.3 Squawk

All aircrafts departing from an airport must be assigned a squawk code that differs from both the default squawk codes (1200, 2000 and 2200) and special squawk codes (7500, 7600 and 7700). Note that it is also **FORBIDDEN** to squawk 7500 as VATSIM does not support the act of hijacking.

The assigned squawk code starts from 1201-1277 for VFR traffics and all IFR squawk will be between 6200-6277 for all traffic departing from Jakarta FIR and 4100-4177 for all traffic departing from Ujung Pandang FIR. If the assigned squawk code is not available anymore (DUPE), controller that is currently controlling the aircraft must assign a new squawk code for the aircraft.

4.1.4 Handoff Procedure

Under radar control, all handoffs must be approximately 1 minutes before the aircraft crosses the sector boundary, unless mentioned specifically inside LoA (Letter of Agreements). Under procedural control, kindly refer to Procedural Control SOP for handoff procedures.

4.2 Delivery Procedures

An air traffic clearance authorises an aircraft to proceed under specified conditions within controlled airspaces. If, for any reason, an air traffic clearance is not acceptable to the controller, the pilot may request an alternative clearance via other route/to other airport and amend their flight plan to ensure the most updated clearance is given. The pilot shall obtain an air traffic clearance before commencing pushback.

4.2.1 IFR Flight Plan

An air traffic clearance must at least consist of:

a. Destination airport
b. Departure procedure / radar vectors
c. Initial altitude
d. Final Altitude / Level assignment
e. Runway
f. Squawk code

Below is the preferred format for delivery clearance:

"[CALLSIGN], cleared to [DESTINATION], follow [DEPARTURE PROCEDURE/RADAR VECTORS] runway [RUNWAY ACTIVE], climb initially FL240, expect [FINAL ALTITUDE/LEVEL ASSIGNMENT], squawk [SQUAWK CODE]."

For example:

"Indonesia 17, cleared to Ngurah Rai Airport, follow CA2D runway 25R, climb initially FL240, expect FL370, squawk 2326"

The default Initial climb altitude or flight level in all airports is FL240 unless coordinated with the local APP or CTR.

4.2.2 VFR Circuit Pattern Flight Plan

If the aircraft filed a VFR Flight Plan, the clearance shall be issued with the same format. The altitude shall be adjusted to meet VFR standards, e.g. maximum height of circuit altitude is 1500 feet unless coordinated with local TWR/APP/CTR.

A Circuit Pattern air traffic clearance must at least consist of:

a. Direction of Circuit Pattern
b. Departure Runway
c. Circuit Pattern altitude
d. Squawk code

Below is the preferred format for delivery clearance:

"**[CALLSIGN]**, cleared for **[LEFT/RIGHT]** hand circuit pattern runway **[DEPARTURE RUNWAY]**, 1500 feet and below, squawk **[SQUAWK CODE]**"

Example of the clearance:

"PK-FLY, Cleared for left-hand circuit pattern runway 27, 1500 feet below, squawk 1201."

4.2.3 VFR Cross Country Flight Plan

If the aircraft filed a VFR Cross Country Flight Plan, the clearance shall be issued with the same format as the IFR clearance. The altitude shall be adjusted to meet VFR standards.

A Cross Country air traffic clearance must at least consist of:

a. Destination Airport
a. Departure Procedure (Circuit Pattern unless coordinated with TWR/APP/CTR)
b. Departure Runway
c. Final altitude (Need to be coordinated with TWR/APP/CTR)
d. Squawk code

Below is the preferred format for delivery clearance:

"**[CALLSIGN]**, cleared to **[DESTINATION]**, follow **[DEPARTURE PROCEDURE]** runway **[RUNWAY ACTIVE]**, **[FINAL ALTITUDE/LEVEL ASSIGNMENT]**, squawk **[SQUAWK CODE]**"

Example of the clearance:

"PK-FLY, Cleared to Blimbingsari, follow left hand circuit pattern runway 27, 6000ft, squawk 1203."

"PK-FLY, Cleared to Blimbingsari, after airborne enter upwind leg runway 27, 6000ft, squawk 1203."

4.2.4 VFR Local Flight Flight Plan

If the aircraft filed a VFR Local Flight Flight Plan, the clearance shall be issued with the same format as the VFR Cross Country clearance. The altitude shall be adjusted to meet VFR standards.

A Local Flight air traffic clearance must at least consist of:

b. Destination Area (e.g Kuta, Sanur, PIK, etc)
c. Departure Procedure (Circuit Pattern unless coordinated with TWR/APP/CTR)
d. Departure Runway
e. Final altitude (Need to be coordinated with TWR/APP/CTR)

e. Squawk code

Below is the preferred format for delivery clearance:

"**[CALLSIGN]**, cleared to **[DESTINATION]**, follow **[DEPARTURE PROCEDURE]** runway **[RUNWAY ACTIVE]**, **[FINAL ALTITUDE/LEVEL ASSIGNMENT]**, squawk **[SQUAWK CODE]**"

Example of the clearance:

"PK-FLY, Cleared to Kuta and Sanur Area, follow left hand circuit pattern runway 27, 2000ft, squawk 1203."

"PK-FLY, Cleared to PIK Area, after airborne enter upwind leg runway 27, 6000ft, squawk 1204."

4.2.5 Squawk Codes
All aircrafts departing from an airport must be assigned a squawk code based on the rules above (4.1.3).

4.3 Ground Procedures
In some cases, there are airports without any pushback car. Therefore, aircraft will be commencing taxi directly from the stand. Do pay attention to the local airport chart.

4.3.1 Pushback Procedure
Aircraft should report parking stand when requesting push and start. Push and start approval should be given with following format:

"**[CALLSIGN]**, push and start approved, face **[NORTH / EAST / SOUTH / WEST]**, expect **[TAXIWAY]**."

For example:

"Indonesia 1945, push and start approved face north, expect taxiway NC3."

"Indonesia 1945, push and start approved face east expect taxiway NC2."

Do avoid saying "Cleared for push and start" as it is only use for departure/arrival clearance and takeoff/landing clearance.

4.3.2 Taxi Procedure
When the aircraft calls for taxi, the clearance should consist of callsign, clearance imperative, taxi destination, and taxi routing. Taxi clearance should be given with the following format:

"**[CALLSIGN]**, taxi to **[TAXI DESTINATION]** via **[TAXI ROUTING]**."

For example:

"Indonesia 1945, taxi to holding point Alpha via November."

"Indonesia 443, taxi to gate A24 via November Charlie 3, November Papa 2"

When the aircraft is approaching the said destination, handoff the aircraft to the next facility or UNICOM, depending on the situation to keep the aircraft moving.

4.4 Tower Procedures

Aerodrome control service is provided by Aerodrome control Tower (TWR). The Tower controller should have an ATIS online based on ATIS usage procedure above (4.1.2),

4.4.1 Departure Procedure

Tower controller should conduct well-maintained separation for all traffic departing from the airport at all times based on wake turbulence type of the aircrafts as shown in the picture below. **[Table to be inserted]** In addition, controller need to be aware of the Pilot's workload during take-off procedure by avoiding giving unnecessary instructions during critical times (Telling pilot to contact the next controller once the aircraft is passing 100ft, etc) unless it is necessary (Cancelling take-off clearance).

4.4.1.1 Line-Up Procedure

During busy movement in an aerodrome, controller might ask the aircraft to line up before commencing take-off procedures to save time. However, this is not recommended during low traffic movement. Line up clearance shall be given with the following format:

"**[CALLSIGN]**, **[INFORMATION]**, runway **[RUNWAY ACTIVE FOR TAKEOFF]**, Line up and wait behind."

For Example:

"Lion Inter 404, runway 07R, line up and wait."

"Lion Inter 404, behind arriving traffic Citilink A320, runway 07R, line up and wait behind"

"Lion Inter 404, behind arriving traffic Citilink A320, wind 075 degree at 5 knot, runway 07R, line up and wait behind"

"Lion Inter 404, behind rolling traffic Garuda B738, wind 075 degree at 5 knot, runway 07R, line up and behind"

When the wind information is already given during line up clearance, tower does not need to mention it again during take-off clearance.

4.4.1.2 Unconditional Take-off Procedure

Take-off clearance must contain the wind information, QNH and runway designation. The take-off clearance shall be given with the following format:

"**[CALLSIGN]**, wind **[WIND DIRECTION]** degree at **[WIND SPEED]** knots, runway **[RUNWAY ACTIVE FOR TAKEOFF]**, cleared for take-off."

For example:

"Lion Inter 404, wind 075 degree at 5 knots, runway 07R cleared for take-off."

4.4.1.3 Take-off Procedure with Radar Vector Departure

If the aircraft depart via vectors or maintaining runway heading, the tower controller shall include the initial heading after take-off as TMA controller requested. This take-off clearance can be given with the following format:

"**[CALLSIGN]**, wind **[WIND DIRECTION]** degree at **[WIND SPEED]** knots, after take-off, turn **[LEFT/RIGHT]** heading **[INITIAL HEADING]**, runway **[RUNWAY ACTIVE FOR TAKEOFF]** clear for take-off".

For example:

"Lion Inter 404, wind 075 degree at 5 knots, after airborne turn right heading 100, runway 07R clear for take-off."

"Lion Inter 404, wind 075 degree at 5 knots, after airborne maintain runway heading, runway 07R clear for take-off."

Once airborne, handoff the aircraft to the next facility or UNICOM. You may still control the aircraft up to 5NM and 3000ft from the aerodrome.

4.4.1.4 Conditional Take-off Clearance

During special occasions, VFR flight or busy environments, there might be coordination between TWR and APP controller such as asking pilot to monitor APP frequency instead of contact APP frequency and many other cases. Therefore, to avoid inefficiency RTF, the instruction can be combined with the take-off clearance with the following format:

"**[CALLSIGN]**, wind **[WIND DIRECTION]** degree at **[WIND SPEED]** knots, **[ADDITIONAL INSTRUCTIONS/INFORMATION]**, runway **[RUNWAY ACTIVE FOR TAKEOFF]**, cleared for take-off."

For Example:

"Lion Inter 404, wind 075 degree at 5 knots, after airborne monitor Jakarta Radar 123.85, runway 07R clear for take-off."

"PK-SIO, wind 075 degree at 5 knots, after airborne join left downwind, runway 07R clear for take-off"

"Lion Inter 404, wind 075 degree at 5 knots, after airborne proceed direct DOLTA and contact Jakarta Radar 123.85, runway 07R clear for take-off."

Keep in mind that too long instructions will cause confusion or miss-understandings by the pilot. Controller should keep the instructions clear and to the point.

4.4.1.5 Rejecting Take-off Clearance

If TWR controller notice, there is something emergency going on during take-off procedure (Risk of Collision both in air and on ground). Controller should cancel the take-off clearance **immediately** with the following format:

"**[CALLSIGN]**, stop immediately"

If the traffic doesn't seems to stop, do repeat the same phraseology For Example:

"Lion Inter 505, stop immediately, *Lion Inter 505,* stop immediately".

Once the pilot has acknowledged the instructions, controller may give further information of the take-off clearance rejection.

For Example:

"Lion Inter 505, turn left at N5 due to traffic crossing runway without clearance"

4.4.2 Arrival Procedure

During arrival phase, TWR controller might issue speed control to the aircraft to maintain safe separation during approach such as:

- Reduce speed 180kt until 8NM
- Reduce speed 160kt until 4NM
- Reduce minimum approach speed

No speed control shall be issued when the traffic is closer than 4NM from the runway threshold.

4.4.2.1 Continue Approach Instructions

If there are multiple arriving traffic coming at close separation. Tower should not issue landing clearance for all the arriving traffic at the same time. Landing clearance should be given to only 1 aircraft, and the others should continue their approach. Additional information might be given when instructing aircraft to continue their approach with the following approach:

"**[CALLSIGN]**, runway **[ACTIVE LANDING RUNWAY]**, continue approach, **[ADDITIONAL INFORMATION]**"

For Example:

"Supergreen 202, runway 25L, continue approach, wind 240 degree at 4 knots, you are traffic number 2"

"Supergreen 202, runway 25L, continue approach, reduce minimum approach speed, wind 200 degree at 5 knots"

4.4.2.2 Landing Clearance

Landing clearance must contain the wind information, QNH and runway designation. The landing clearance shall be given with the following format:

"**[CALLSIGN]**, wind **[WIND DIRECTION]** degree at **[WIND SPEED]** knots, QNH **[LOCAL AIRPORT QNH]**, runway **[RUNWAY ACTIVE FOR LANDING]** cleared to land."

For example:

"Lion Inter 404, wind 260 degree 9 knots, QNH 1010, runway 25L cleared to land."

TWR controller may instruct the aircraft to vacate at specific rapid exit taxiway or exit taxiway once the aircraft is under 60 knots. Upon vacating the runway, you may handoff the aircraft to ground controller if there is any or control yourself if there is no ground controller online.

4.4.2.3 Missed Approach Procedure

When the traffic commence a missed approach, controller should be ready to coordinate it with APP or CTR. If controller notice the aircraft could not land safely (e.g another traffic on runway, or too close separation with preceding traffic), TWR should cancel the landing clearance and instruct the aircraft to go around with this following format:

"**[CALLSIGN]**, go around, **[MISSED APPROACH PROCEDURE]**, contact **[APP/CTR FREQUENCY]**"

Missed approach procedure usually follows the local missed approach procedure unless there are coordination made with APP/CTR regarding the missed approach aircraft. For example:

"Indonesia 405, go around, follow missed approach procedures, contact Jakarta Radar 123.85"

"Indonesia 405, go around, turn right heading 300 and climb 3000ft, contact Jakarta Radar 123.85"

4.4.3   VFR Procedure

In VFR situation, there are two possibilities that the aircraft may file for a circuit pattern and/or local flight. In a circuit pattern plan you are expected to monitor and communicate with the aircraft. While for local flight, TWR should have control the traffic unless the local flight is outside TWR AOR (Area of Responsibility).

4.4.3.1 Circuit Pattern Flight

After a circuit pattern flight has taken off, the pilot will continue on the circuit and call on crosswind or downwind. The command can be given as following format:

"**[CALLSIGN]**, clear join **[UPWIND/CROSSWIND/DOWNWIND]** Report on **[UPWIND/CROSSWIND/DOWNWIND]**."

For example:

"PKFLY, clear join left downwind, Report on downwind"

After the aircraft has reached any instructed circuit pattern leg and reported to the controller, ask for their intention, either touch-and-go, stop-and-go, or a full-stop landing. And if the aircraft had stated its intention, you may approve/decline his intention based on current airport situation. If you approve his/her intention, you may give him/her approval to join for a base/final leg if it's possible. Approval to base/final leg can be given as following format:

"**[CALLSIGN]**, clear join **[BASE/FINAL]** runway **[RUNWAY ACTIVE FOR LANDING]**. Report on **[BASE/FINAL]**."

For example:

"PKFLY, clear join final runway 27. Report final"

When the aircraft is on final, you are to clear him to land, stop-and go, or to touch-and-go. If the aircraft is going for touch-and-go or stop-and-go, then repeat the procedure above. During low traffic movement, controller might issue landing clearance when the traffic Still in circuit pattern leg to reduce RTF congestion.

4.5 Terminal Manoeuvring Area (TMA) Controller

The TMA controller is responsible to manage a designated airspace area above the area controlled by Tower controller which may cover more than one aerodrome. TMA controllers are responsible for traffic after take-off and on approach/descent to the airport. The roles are divided to two controllers: departure and approach. There are some basic phraseologies for TMA controller such as:

Giving Radar Vector:

"**[CALLSIGN]**, turn **[LEFT/RIGHT]** heading **[ASSIGNED HEADING]**."

Cancelling SID / STAR:

"**[CALLSIGN]**, cancel SID/STAR, proceed direct **[WAYPOINT]**."

"**[CALLSIGN]**, cancel SID/STAR, turn**[LEFT/RIGHT]** heading **[ASSIGNED HEADING]**."

Holding Procedure:

"**[CALLSIGN]**, make hold over **[HOLDING WAYPOINT]** at **[HOLDING ALTITUDE]** as published".

"**[CALLSIGN]**, make [RIGHT/LEFT] hand hold over **[ASSIGNED HOLDING WAYPOINT]** at **[HOLDING ALTITUDE]**, inbound course **[COURSE]**, leg time **[ASSIGNED LEG TIME]**".

Identifying Aircraft:

"**[CALLSIGN]**, radar Identified."

Climb/Descend Instruction

"**[CALLSIGN]**, **[CLIMB/DECSCEND] [ASSIGNED ALTITUDE or LEVEL]** "

Arrival Clearance

"**[CALLSIGN]**, clear to **[DESTINATION AIRPORT]** via **[STAR]** expect **[APPROACH TYPE]** runway **[ASSIGNED LANDING RUNWAY]**"

4.5.1 Departure

Departure procedure start right after Tower hands-off a departing aircraft, usually with an assigned SID. It is your task to guide the aircraft as your own discretion, either directing the traffic to a specific waypoint, climb to a specific altitude, or to follow the SID. Departure controller limit is at FL245 or when an aircraft leaving your designated airspace.

Some common commands for the Departure for traffic departing includes:

"Supergreen 9523, radar identified, continue SID, climb to FL240"

"Supergreen 9523, radar identified, cancel SID, track direct DOLTA, climb to FL240, cancel altitude restriction"

"Supergreen 9523, radar identified, cancel SID, track outbound radial CKG 240 degrees, climb to FL240"

When an aircraft is going to leave your airspace or approaching FL245, you should handover the traffic to Centre Controller or to UNICOM if there is no Centre controller available.

4.5.2 Arrival/Approach

Arrival procedure start right after CTR hands-off an arriving traffic or traffic from UNICOM has first contact with you, usually with an assigned STAR. If an aircraft comes from UNICOM, new squawk should be assigned based on your FIR squawk range and Arrival clearance should be issued. Change squawk command can be given as following:

"[CALLSIGN], change your squawk to [NEW SQUAWK]"

For example:

"Indonesia 612, change your squawk to 6177"

If the pilot done changing his squawk, you can identify his position by giving a statement as following:

"[CALLSIGN], radar identified, [OTHER COMMAND]."

For example:

"Indonesia 612, radar identified, clear to Soekarno Hatta via BUNIK2H arrival, expect ILS approach runway 25R, descend FL150."

It is your task to guide the aircraft at your own discretion, either directing the traffic to a specific waypoint, descent to a specific altitude, hold him on a waypoint, or just make him follow the STAR. Arrival/Approach controller limit is when established on the localizer or have the runway insight.

Some common commands for the arrival for traffic arriving includes:

"Supergreen 9523, identified, continue descend to FL150 via the BUNIK2H arrival for runway 25R"

"Supergreen 9523, hold over KHUTA as published"

"Supergreen 9523, clear for the RNP approach runway 09, report when established"

If the traffic established on the final approach course or have runway insight, you should handover the traffic to Tower controller if there is any Tower controller or control them yourself it there is no Tower controller.

4.6 Centre Controller

In VATSIM network, Jakarta FIR will log in as WIIF_CTR with callsign "Jakarta Radar" and Ujung Pandang FIR will log on as WAAF_CTR with callsign "Ujung Radar". Following VATSIM rules, **All CTR controller** will **control** and **give ATC coverage** for **ALL airports** from ground, unless there is another ATC online on a specific airport. All ACC in Indonesia are in class A classification.

4.6.1 Airspaces Boundaries. Sector and Frequencies

Callsign	Identifier	Frequencies	Level / Description
*Jakarta Radar	WIIF_CTR	132.300	FL245 – FL600
Jakarta North Radar	WIIF_N_CTR	133.200	FL245 - FL600
**Jakarta West Radar	WIIF_W_CTR	135.900	FL245 - FL600
**Jakarta East Radar	WIIF_E_CTR	120.900	FL245 - FL600
*Ujung Pandang Radar	WAAF_CTR	128.100	FL245 – FL600
Ujung Pandang Bali Radar	WAAF_B_CTR	120.700	FL245 - FL600
Ujung Pandang East Radar	WAAF_W_CTR	132.500	FL245 - FL600
Ujung Pandang West Radar	WAAF_E_CTR	128.100	FL245 - FL600

*Note: Main sector is shown in orange bold text, the rest are split sectors. Main sector must be opened, before any split sector can be opened.
** Note: Some part of this sector will be delegated to Singapore ACC, kindly refer to Indonesia-Singapore LOA

Indonesia ACC Sectors Boundaries are shown below:
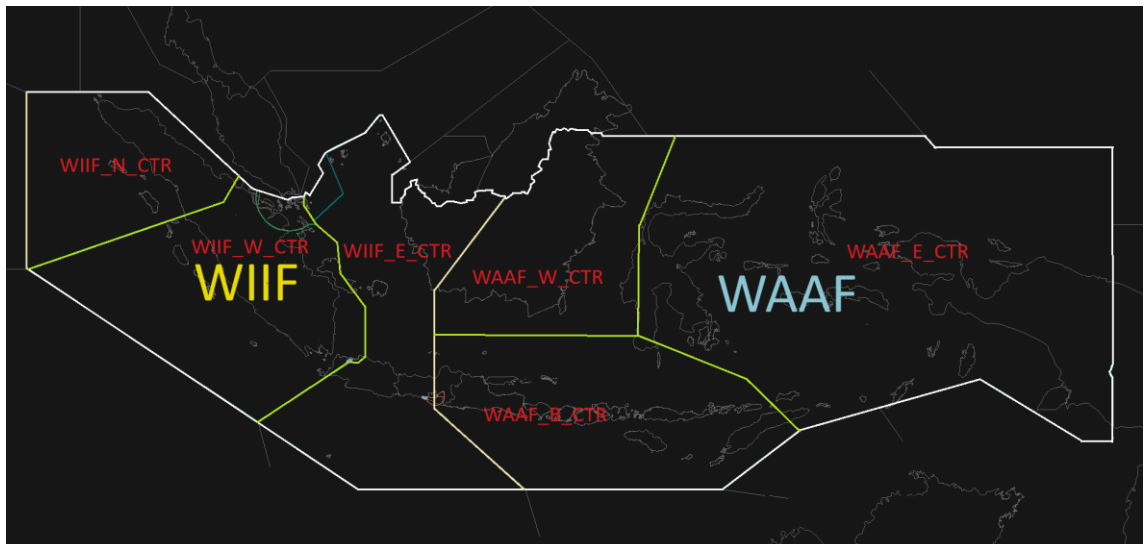
4.6.2 Use of split sectors

Controllers who log on as a 'split sector' must only provide a service to aircraft within that sector. If a 'main sector' is open and a 'split sector' opens within it, the 'split sector' automatically takes that airspace from the 'main sector'. All controllers must notify surrounding controllers that they are online using the ATC chat function.

4.6.3 Arrival Clearance

CTR Controller **must** give the appropriate arrival clearance to each IFR aircraft arriving to all controlled airports within its airspace at least **before** the aircraft's top of descent or its last enroute waypoint.

Arrival clearences given by following format:

"**[CALLSIGN]**, cleared into **[ARRIVAL AIRPORT]** via **[STAR]** arrival, **[APPROACH TYPE]** runway **[RUNWAY ACTIVE FOR LANDING]**"

For Examples:

"Sriwijaya 14, cleared into Kualanamu via MEDIA2D, ILS runway 23."