

I ENR 3.4 HELICOPTER ROUTES

1. Introduction

1.1 All helicopter operators are required to adhere strictly to the procedures described below.

2. Helicopter Operations Facilities at Sir Seewoosagur Ramgoolam International Airport

2.1 To facilitate helicopter operations at Sir Seewoosagur Ramgoolam International Airport, a Helicopter Landing Area 280 m x 14 m is provided which is adjacent to the General Aviation Apron as shown at ENR 3.4-7 with the following facilities:

- a) Final Approach and Take Off Area (FATO);
- b) Clear Approach/Departure paths for FATO 14/32;
- c) Clear Area for ground manoeuvres;
- d) A Safety Area
- e) Two Touchdown and Lift Off Area (TLOFs) namely TLOF ALPHA located at the commencement of FATO 14 and TLOF PAPA

located at the intersection of Taxiway L and the FATO; and

f) Marking and lighting aids.

2.2 Transit to hangar TLOFs are made available as follows:

- a) Two transit-to-hangar TLOFs adjacent to BAY 4 in front of ATR Hangar (See chart at ENR 3.4-8); and
- b) One transit-to-hangar TLOF in front of National Coast Guard Hangar (See chart at ENR 3.4-8).

3. Helicopter Routing - CTR Entry/Exit and Transit Points

3.1 Helicopters proceeding to and departing from Sir Seewoosagur Ramgoolam International Airport shall route their flights via the helicopter access lanes through the CTR Entry/Exit and Transit Points depicted in the Helicopter VFR Chart (see chart AD-2 FIMP40-1)

3.1.1 FATO 14 in use

Route	Transit Points
Belle Mare -Sir Seewoosagur Ramgoolam International Airport	Belle Mare (Max Alt 1500ft QNH) - Ile aux Cerfs - Pointe du Diable - Grand Port (Max Alt 1500 ft QNH) – Mahebourg (Max500ft AGL) – Beau Vallon (Max 500ft AGL)– Visual Circuit – FATO 14 (See charts at AD 2-FIMP 40-1; AD 2-FIMP 40-2; AD 2-FIMP 40-4)
La Nicoliere -Sir Seewoosagur Ramgoolam International Airport	La Nicoliere- La Pipe - Riche en Eau (Max 500ft AGL)- Beau Vallon (Max 500ft AGL)- Visual Circuit – FATO 14 (See charts at AD 2-FIMP 40-1; AD 2-FIMP 40-2; AD 2-FIMP 40-4)
Peter Both - Sir Seewoosagur Ramgoolam International Airport	Peter Both – La Pipe –Riche en Eau (Max 500ft AGL) - Beau Vallon (Max 500ft AGL)- Visual Circuit – FATO 14 (See charts at AD 2-FIMP 40-1; AD 2-FIMP 40-2; AD 2-FIMP 40-4)
Bagatelle Mall - Sir Seewoosagur Ramgoolam International Airport	Bagatelle Mall – La Pipe –Riche en Eau (Max 500ft AGL) - Beau Vallon (Max 500ft AGL)- Visual Circuit – FATO 14 (See charts at AD 2-FIMP 40-1; AD 2-FIMP 40-2; AD 2-FIMP 40-4)
Chamarel – Grand Bassin – Sir Seewoosagur Ramgoolam International Airport	a) Chamarel- Grand Bassin (Max 500ft AGL) – Roundabout W –Visual Circuit - FATO 14 or b) Alternative route via Plaine Magnien – RWY 14 – TWY C – FATO 14 (See charts at AD 2-FIMP 40-1; AD 2-FIMP 40-2; AD 2-FIMP 40-4)

<p>Chamarel –Bassin Blanc Sir Seewoosagur Ramgoolam International Airport</p>	<p>a) Chamarel- Bassin Blanc (Max 500ft AGL) – Avalon – Roundabout W – Visual Circuit - FATO 14 or</p> <p>b) Alternative route via Plaine Magnien – RWY 14 – TWY C – FATO 14 (See charts at AD 2-FIMP 40-1; AD 2-FIMP 40-2; AD 2-FIMP 40-4)</p>
<p>Bel Ombre- Sir Seewoosagur Ramgoolam International Airport</p>	<p>a)Bel Ombre (Max Alt 1500ft QNH) - Souillac (Max Alt 1500ft QNH)- Gris-Gris - Le Souffleur (Max Alt 500ft QNH) – Visual Circuit – FATO 14</p> <p>b) Alternative route via Plaine Magnien – RWY 14 – TWY C – FATO 14 (See charts at AD 2-FIMP 40-1; AD 2-FIMP 40-2; AD 2-FIMP 40-4)</p>

3.1.2 FATO 32 in use

Route	Transit Points
<p>Belle Mare -Sir Seewoosagur Ramgoolam International Airport</p>	<p>Belle Mare (Max Alt 1500ft QNH) -Ile aux Cerfs -Pointe du Diable -Grand Port(Max Alt 1500ft QNH)– Mahebourg (Max 500ft AGL) and/or Beau Vallon (Max 500ft AGL) – Visual Circuit – FATO 32 (See charts at AD 2-FIMP 40-1; AD 2-FIMP 40-3; AD 2-FIMP 40-5; AD 2-FIMP 407)</p>
<p>La Nicoliere -Sir Seewoosagur Ramgoolam International Airport</p>	<p>La Nicoliere - – La Pipe - Riche en Eau (Max500ft AGL)- Beau Vallon (Max 500ft AGL– Visual Circuit – FATO 32 (See charts at AD 2-FIMP 40-1; AD 2-FIMP 40-3; AD 2-FIMP 40-5, AD 2-FIMP 40-7)</p>
<p>Peter Both - Sir Seewoosagur Ramgoolam International Airport</p>	<p>Peter Both – La Pipe –Riche en Eau (Max 500ft AGL)- Beau Vallon (Max 500ft AGL) – Visual Circuit – FATO 32 (See charts at AD 2-FIMP 40-1; AD 2-FIMP 40-3; AD 2-FIMP 40-5, AD 2-FIMP 40-7)</p>
<p>Bagatelle Mall - Sir Seewoosagur Ramgoolam International Airport</p>	<p>Bagatelle Mall – La Pipe –Riche en Eau (Max 500ft AGL)- Beau Vallon (Max 500ft AGL) – Visual Circuit – FATO 32 (See charts at AD 2-FIMP 40-1; AD 2-FIMP 40-3; AD 2-FIMP 40-5, AD 2-FIMP 40-7)</p>
<p>Chamarel – Grand Bassin – Sir Seewoosagur Ramgoolam International Airport</p>	<p>Chamarel - Grand Bassin (Max 500ft AGL) – Roundabout W– Visual Circuit – FATO 32 or Chamarel - Grand Bassin (Max 500ft AGL) –Le Bouchon- Visual Circuit – FATO 32 (See charts at AD 2-FIMP 40-1; AD 2-FIMP 40-3; AD 2-FIMP 40-5, AD 2-FIMP 40-7)</p>
<p>Chamarel –Bassin Blanc Sir Seewoosagur Ramgoolam International Airport</p>	<p>Chamarel - Bassin Blanc (Max 500ft AGL) – Avalon – Roundabout W– Visual Circuit – FATO 32 or Chamarel - Bassin Blanc (Max 500ft AGL) – Avalon – Le Bouchon– Visual Circuit – FATO 32 (See charts at AD 2-FIMP 40-1; AD 2-FIMP 40-3; AD 2-FIMP 40-5, AD 2-FIMP 40-7)</p>
<p>Bel Ombre- Sir Seewoosagur Ramgoolam International Airport</p>	<p>Bel Ombre (Max Alt 1500ft QNH) - Souillac (Max Alt 1500ft QNH) – Gris-Gris -Le Souffleur (Max Alt 500 ft QNH – Le Bouchon (Max Alt 500ft QNH)- - Visual Circuit – FATO 32 (See charts at AD 2-FIMP 40-1; AD 2-FIMP 40-3; AD 2-FIMP 40-5, AD 2-FIMP 40-7)</p>

3.2 Transit points, other than those mentioned above, may also be used with prior coordination between ATC and pilots.

4. Operational Conditions

4.1 Simultaneous parallel fixed-wing aircraft operations on RWY 14/32 and helicopter operations on FATO 14/32 shall not be allowed. If taxiing aircraft are engaged on TWY C, TWY D and the portion of TWY Y between TWY D and TWY H and on TWY L and TWY K (see Chart at ENR 3.4-8), helicopters shall be required to hold at Beau-Vallon and Le Souffleur and on ground at TLOFs ALPHA and PAPA as appropriate to ensure that fixed-wing aircraft and helicopter operations are well segregated. Once all of the above -mentioned portions of Taxiways are clear of fixed-wing aircraft operations, then helicopter operations on FATO 14/32 can be allowed. Moreover, if helicopters are operating along the eastern coastline or from the north via Riche en Eau, ATC shall not approve request for an early left turn made by aircraft flying the SID (RNAV) RWY 14 NORTH, aircraft must climb on the SID.

4.2 Fixed-wing commercial operations shall normally have priority over helicopter operations except in case of emergency or SAR operations.

4.3 Helicopters shall not be allowed to cross the flight path of an aircraft on a straight-in approach for RWY 14 once the latter has passed 8 NM inbound. However, ATC may expedite helicopter operations provided that adequate separation can be provided in VMC when the aircraft has reported at 8NM Final and the helicopter is ready for an **immediate** departure. The aircraft will then be instructed to continue approach until the departing helicopter has cleared the runway centre line.

4.4 Helicopters shall not be allowed to move out of the alighting and parking area without obtaining authorisation from ATC.

4.5 Inbound helicopters will be routed by ATC to join Helicopter Visual landing circuit for approach and landing on FATO 14/32 at TLOF ALPHA or PAPA (see chart at ENR 3.4-8 Helicopter Visual Landing charts). After landing on TLOF ALPHA or PAPA, helicopters shall be cleared by ATC to either air or ground taxi to their allocated parking stands.

4.6 Helicopters flying inbound or outbound the CTR are to avoid overflying airport buildings,

build-up areas and prohibited areas and the restricted areas indicated in AIP Mauritius.

4.7 Helicopters shall fly in VMC during the hours of daylight only, except when otherwise authorised by DCA, or except for Police helicopter night operations.

4.8 It must be noted that when ground-taxiing, helicopters use less fuel than when air-taxiing and minimize air turbulence. However, ATC shall authorise both ground and air-taxiing by helicopters provided such operations are not carried out in close proximity to other fixed-wing aircraft, helicopters and other loose objects.

4.9 ATC shall not request single-pilot helicopters to change frequency when hovering or air-taxiing because in low altitude the latter will require the constant use of both hands to maintain flight control.

4.10 ATC shall not authorise helicopter pilots to hover over fixed-wing aircraft taxiing to the main apron or the General Aviation Apron.

4.11 Helicopter Pilots shall exercise caution on their approach to FATO 14/32 with regard to the light poles located on the General Aviation Apron.

4.12 The Airport Operator shall:

(a) Avoid parking of code C (or higher) aircraft on BAY 46, 47 and 48 on the General Aviation Apron; and

(b) Arrange for the guarding and monitoring of helicopter operations on and in the vicinity of the FATO 14/32 operational areas and to immediately report any unusual occurrence or incident/accident immediately to the Control Tower as these areas are not clearly visible to the latter.

5. Helicopter Departure from Sir Seewoosagur Ramgoolam International Airport

5.1 Five minutes prior to departure, pilot shall advise Tower of start-up time and of the intended routing and altitude.

5.2 Start-up and ATC clearance shall be issued by Tower subject to traffic. Helicopters shall initially be cleared to Lift Off and Ground or Air Taxi to TLOF PAPA or ALPHA on FATO 14/32 where Take-Off clearance shall be issued. ATC shall exercise separation as follows:

- (a) Helicopter taking-off FATO 14 requesting immediate right turn shall be authorised provided:
- RWY 14 is in use;
 - ATC has concerned aerodrome traffic in sight;
 - Adequate separation can be ensured; and
 - The requirements described in para 4.1 are complied with.
- (b) Helicopter taking-off FATO 14 requesting a left turn shall be authorised by ATC provided:
- RWY 14 is in use;
 - ATC has concerned aerodrome traffic in sight;
 - Helicopter route is clear of aircraft landing/take-off RWY 14;
 - Adequate separation can be ensured; and
 - The requirements described in para 4.1 are complied with.
- (c) Helicopter taking-off FATO 32 requesting immediate right turn shall be authorised by ATC only when:
- RWY 32 is in use;
 - ATC has concerned aerodrome traffic in sight;
 - Adequate separation can be ensured;
 - Helicopter route is clear of aircraft landing/take-off RWY 32; and
 - The requirements described in para 4.1 are complied with.
- (d) Traffic conditions permitting, ATC may allow helicopters taking-off FATO 32 to make a left turn provided this manoeuvre is initiated beyond THR RWY 14 clear of buildings and other obstacles and the conditions specified in para 5.2 (c)(i) to (v) are complied with.
- (e) ATC shall authorise Police helicopters to take-off from the National Coast Guard hangar on request only and subject to traffic.
- (f) ATC shall authorise Police helicopters to take-off from the National Coast Guard hangar /FATO14/32 cross the RWY centre-line to the North Eastern sector thence to Riche en Eau or Mahebourg on request only and subject to traffic.
- 5.3 After departure ATC may request a position report over a transit point or directly at the Control Zone boundary.
- 5.4 Pilots intending to operate below 2000ft AMSL outside the Control Zone shall be requested by ATC to leave ATC frequency and change over to the Traffic Information Broadcast Frequency 123.4 MHz.
- 5.5 Pilots intending to operate at or above 2000ft AMSL outside the Control Zone shall be required to maintain two-way communication with Approach Control on 119.1 MHz.
- ## 6 Helicopter Arrival To Sir Seewoosagur Ramgoolam International Airport
- 6.1 Five minutes prior to entering the Control Zone, the helicopter pilot shall:
- Check for Runway in use on ATIS (126.2 MHz). If Runway 32 is in use, then both ATC and pilots shall take additional safety precautions as described hereunder in relation to aircraft landing on runway 32 especially with regard to Runway 32 Missed Approach Procedures and aircraft departing on SID (RNPI) RWY 32 West; and
 - Inform Tower of his ETA and intended routing and request ATC clearance.
- 6.2 ATC shall:
- Clear the helicopter to enter the CTR via a CTR Entry Point (see para 3.1 and Visual Approach Chart);
 - Provide essential traffic information to concerned traffic;
 - Maintain standard ICAO vertical or geographical separation until conflict resolution; and
 - Clear Police Helicopters directly to the National Coast Guard parking area/FATO 14/32 on request only subject to traffic.
- 6.3 Separation between helicopters and other traffic within the Control Zone shall be applied as described hereunder. In all cases of conflicting traffic essential traffic information shall be passed to pilots concerned.
- ### 6.3.1 Non-Conflicting Situation
- ATC clears the helicopter inbound to Sir Seewoosagur Ramgoolam International Airport through most expeditious route indicated in the Helicopter Visual Approach Chart to join the Visual Landing Circuits indicated in the Helicopter Visual Landing Charts.
- ### 6.3.2 Helicopter In Conflict With Visual Approach From The South West and West

(a) **FATO 14 in use:**

Helicopter Inbound from the South West

- (i) Pilot of helicopter crossing Bel Ombre at maximum altitude 1500ft QNH shall be requested by ATC to descend 500ft QNH and follow shoreline to Souillac, where subject to traffic, ATC shall clear the helicopter to join the Visual Circuit for FATO 14, either via Le Bouchon. Holding Points on the Visual Approach are Le Souffleur or Le Bouchon or Beau Vallon as appropriate (see chart at AD 2 - FIMP 40-1).

Note: Requirements of para 6.1 and para 4.1 must be complied with.

- (ii) ***Helicopter inbound via Chamarel/Black River*** – Pilot of helicopter reporting Grand Bassin at maximum altitude 2500ft QNH shall be requested by ATC to maintain own separation and to hold until visual with the conflicting traffic. On conflict resolution ATC shall clear the helicopter to join the Visual Circuit for FATO 14 via Roundabout W. Alternatively, on request from the pilot, ATC shall clear the helicopter to Riche en Eau via Curepipe (provided the route crossing the ILS Approach Path is clear of conflicting traffic) then to join visual circuit for FATO 14.

Note: Requirements of para 6.1 and para 4.1 must be complied with.

(b) **FATO 32 in use:**

- (i) ***Helicopter Inbound from the South West*** – Pilot of helicopter flying the Le Morne- Bel Ombre - Souillac- Le Bouchon route shall be required to descend to 500ft QNH prior to reaching Souillac. If any aircraft is on an Instrument Approach for RWY32, the helicopter shall be required to hold at Souillac on the coastline at 500ft QNH. ATC shall only clear the helicopter to join the visual circuit for FATO 32 when the aircraft carrying an Approach for RWY32 has landed. In case of temporary loss of communications in the Bel Ombre area, the pilot shall descend to 500ft QNH and attempt to contact ATC prior to Souillac. In case of complete loss of communications, the pilot shall follow the procedures described in para 8.

Note: Requirements of para 6.1 and para 4.1 must be complied with.

- (ii) ***Operations via Chamarel/Black River***

ATC shall hold helicopter at Grand Bassin/Bassin Blanc when routing to Sir Seewoosagur Ramgoolam International Airport via Chamarel/Black-River – Grand-Bassin / Bassin-Blanc when an aircraft is landing and taking off on RWY 32.

Note: Requirements of para 6.1 and para 4.1 must be complied with.

6.3.3 Conflict With Visual Approach Traffic Form The North and East FATO 14/32 in use:

- (a) ***Inbound from the East*** – After obtaining ATC Clearance the pilot shall enter the Control Zone at Pointe du Diable then reports at Grand Port at maximum altitude 1500ft QNH and on request by ATC to hold until visual on conflicting traffic or alternatively descend and hold over Mahebourg at 500ft AGL prior to joining the Visual Traffic Circuit for FATO 14/32.

Note: Requirements of para 6.1 and para 4.1 must be complied with.

7. Wake Turbulence

- 7.1 Helicopters are also susceptible to the effects of wake turbulence from large fixed wing aircraft, and the separation requirements of the ICAO prescribed in para 5.8 of PANS ATM DOC 4444- ATM/501 apply equally to helicopters as well as fixed wing aircraft. However, for local helicopter operations ATC are not required to apply wake turbulence separation for helicopters departing, landing, or crossing behind HEAVY or MEDIUM category aircraft. ATC shall issue a “**Caution Wake Turbulence**” to the helicopter and specify the category of the preceding heavier aircraft. The pilot of the helicopter concerned shall be responsible for ensuring that the spacing from a preceding aircraft of a heavier wake turbulence category is acceptable. If it is determined that additional spacing is required, the pilot shall inform ATC accordingly, stating his/her requirements.
- 7.2 Helicopters also produce tip vortices when in flight. In forward flight, the downwash from the main rotor is transformed into a pair of trailing vortices comparable to the wing tip vortices generated by a fixed wing aircraft and there is some evidence that, for a given maximum take-off mass (MTOM), these vortices are more intense than those from a similar-weight fixed-wing aircraft. Therefore, helicopters should operate well clear of parked

or taxiing aircraft when hovering or whilst air taxiing. Hence in the case of a light fixed-wing aircraft departing or landing behind a preceding helicopter, ATC shall issue a “**Caution Wake Turbulence**” to the pilot of the fixed-wing aircraft.

8. Radio Communication Failure (RCF)

8.1 Local helicopters normally operate in VMC during the hours of daylight. In case of partial or total loss of communications, it will be safer for the helicopter to descend to 500ft QNH and leave the Control Zone immediately and land at the most suitable landing site available and contact ATC Supervisor by telephone (Tel no. 5257 3642 or 603 2071).

8.2 Police Helicopters operating in the region of Chamarel and Grand Basin shall land at the Grand Bassin Helipad or immediately leave the area proceeding to the Western coastline and descend to 500ft QNH and proceed according to para 8.3 (b) below.

8.3 Operators are therefore requested to select the most appropriate alternate landing sites outside the Control Zone and make necessary arrangements with the owners or authorities concerned e.g., Police Department ground facilities or hotels helipads for landing in such situations or in emergency. If this course of action is not practicable and the pilot has compelling reason to land on FATO 14/32 at Sir Seewoosagur Ramgoolam International Airport he shall:

(a) If operating North of the runway centreline, enter the Control Zone only at Pointe du Diable and proceed via Mahebourg to hold at Beau Vallon (500ft AGL) The pilot shall at this point

try to attract the attention of ATC by circling at the Beau-Vallon football pitch area and the repeated switching on and off of its landing lights in the direction of the Tower. After obtaining a steady green signal from Tower the helicopter pilot shall cross the RWY 14/32 centreline at right angle and land on TLOF ALPHA or PAPA FATO 14/32.

(b) (i) If operating South of the runway centerline, pilot of the helicopter shall fly the Le Morne-Bel Ombre and shall descend to Alt 500ft QNH prior reaching Souillac, then shall continue to follow the coastline to hold at Le Bouchon and then keep a lookout for traffic prior crossing the runway centreline to join the visual circuit for FATO 14. At Beau Vallon, the pilot shall try to attract the attention of ATC by circling and switching on and off its landing lights in the direction of the Tower.

(ii) If operating South of the runway centerline, pilot of the helicopter shall fly the Le Morne-Bel Ombre and shall descend to Alt 500ft QNH prior reaching Souillac, then shall continue to follow the coastline to hold at Le Bouchon. Traffic permitting, the pilot will then join the visual circuit for FATO 32.

In both cases, the pilot shall also keep a sharp lookout for other traffic operating in the Control Zone and remain clear of them and keep clear of any traffic landing or taking off on RWY 14/32 while maintaining its own separation with them. In case of a steady red signal from Tower the pilot shall continue to hold over Beau Vallon and give way to other aircraft. In case of loss of communications with local helicopters, ATC shall declare a **Local Standby** as a safety precaution.