This document outlines the local operating procedures for both aerodrome and approach control, which includes Flesland ground and tower, as well as Flesland Approach and Director.
Local Operating Procedures – Flesland TMA

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Part 1. General

Chapter 1 General

1.1 Purpose
The purpose of this Local Procedure is to define the procedures to be applied between sectors within Flesland TMA and Norway ACC Stavanger when providing Air Traffic Service to General Air Traffic (IFR/VFR).

1.2 Acknowledgements
Sebastian Rekdal (author), Daniel Klepp (reviewer), Bork Johnsen (reviewer)

1.3 Feedback and Contact Information
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- Training Assistant Norway (Bork Johnsen) training-norway@vatsim-scandinavia.org

1.4 Updates and Amendments

<table>
<thead>
<tr>
<th>Amendment</th>
<th>Date</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>First edition</td>
<td>25th January 2019</td>
<td>First draft</td>
</tr>
</tbody>
</table>
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Chapter 2  Operating Available Positions

2.1  Operating with less than all positions open

2.1.1  General
On the VATSIM network, we rarely have the heavy traffic conditions seen in real life. As a result, airports such as Flesland have a lower density of traffic. Due to the low/medium flow of traffic, it should not be necessarily to open all available positions at Flesland. It is more common and more efficient having one Ground controller, one Tower controller and one Approach controller. Sometimes, only Tower and Approach, or even just Approach.

2.1.2  Log-on priority

2.1.2.1  Flesland DEL/GND/TWR
- Flesland GND (ENBR_GND) may log on at any time.
- Flesland TWR (ENBR_TWR) may log on at any time.

2.1.2.2  Flesland TMA (Flesland)
- Flesland APP West (ENBR_W_APP) may log on at any time.
- Flesland APP DIR (ENBR_D_APP) should be the next sector to log on

In order to open:

- Flesland APP East (ENBR_E_APP), Flesland APP DIR must be online.
Chapter 3  Flesland Ground

3.1  General Responsibilities

Flesland Ground (GND) is responsible for the IFR clearances given to aircraft departing Flesland. GND is responsible for confirming the correct aircraft type and stand number and for ensuring the pilot is in receipt of the correct ATIS. The flight strip will be amended to ensure the correct flight rules, temporary altitude, SSR code and voice tag are shown.

GND is also responsible for the safe and expeditious movement of aircraft on the aprons and taxiways. GND provides services to aircraft up to the named holding points where handover to Flesland TWR will occur.

3.2  Ground Procedures

3.2.1  Standard Instrument Departures

Except as stated in 8.1.3, IFR departures shall select a SID termination point from the table below, corresponding approximately to the direction of flight, and insert as the first point of the route field in the flight plan. IFR departures should select a SID termination point from the table below, corresponding approximately to the direction of flight:

<table>
<thead>
<tr>
<th>SID</th>
<th>Direction of flight</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEGOD</td>
<td>South</td>
</tr>
<tr>
<td>EPOTU</td>
<td>West</td>
</tr>
<tr>
<td>GOKAB</td>
<td>East</td>
</tr>
<tr>
<td>INTUM</td>
<td>Northeast</td>
</tr>
<tr>
<td>OLDAS</td>
<td>North</td>
</tr>
<tr>
<td>TINIG</td>
<td>Southeast</td>
</tr>
<tr>
<td>TUXIL</td>
<td>South</td>
</tr>
</tbody>
</table>

3.2.1.1  SID Designator

<table>
<thead>
<tr>
<th>Runway</th>
<th>SID Designator</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>BEGOD, EPOTU, GOKAB, INTUM, OLDAS, TINIG, TUXIL xC</td>
</tr>
<tr>
<td>35</td>
<td>BEGOD, EPOTU, GOKAB, INTUM, OLDAS, TINIG, TUXIL xD</td>
</tr>
</tbody>
</table>

3.2.1.2  Omni-directional Departure

An aeroplane without approval for RNAV 1 based on GNSS, will be cleared via Omni-directional departure. After departure the aeroplane will be cleared or vectored to a point from where the flight can continue in accordance with the flight plan.

<table>
<thead>
<tr>
<th>Runway</th>
<th>Omni-DIRECTIONAL Departure instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Climb on track 170°. Expect further clearance from ATC. MNM turn ALT: Left turn 2000 FT, Right turn 1500ft. Restrictions: MNM climb gradient 5.0% (304 FT/NM) to 4000 FT. If unable to comply, inform ATC.</td>
</tr>
<tr>
<td>35</td>
<td>Climb on track 350°. Expect further clearance from ATC. MNM turn ALT: Right turn 2000 FT, Left turn 1700 FT. Restrictions: MNM climb gradient 6.0% (365 FT/NM) to 4000 FT. If unable to comply, inform ATC.</td>
</tr>
</tbody>
</table>
Local Operating Procedures – Flesland TMA

3.2.2 Non-Standard Departure Routes
All non-standard departure routes are subject to coordination with the appropriate Flesland APP controller. Flesland TWR must be informed as soon as possible after a clearance has been received and issued in order for TWR to plan a safe and efficient departure plan.

“(Callsign) cleared to (destination) via runway (designator). After departure fly (heading/direction), climb initial to (altitude) feet. Squawk (code)”

3.2.3 Military Traffic
Flesland GND will under normal circumstances be responsible for the issuing of clearances to Operational Air Traffic (Military traffic). All Military departures should be coordinated with the appropriate approach and/or area control sector. An agreement is to be made between the two sectors before issuing a clearance.

3.2.4 Stands

<table>
<thead>
<tr>
<th>Platform</th>
<th>Parking restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal 2</td>
<td>Commercial traffic</td>
</tr>
<tr>
<td>Terminal 3</td>
<td>Commercial traffic – domestic only</td>
</tr>
<tr>
<td>Technical Apron (GA)</td>
<td>GA</td>
</tr>
<tr>
<td>Remote Apron</td>
<td>Cargo traffic, Non-commercial traffic</td>
</tr>
<tr>
<td>Maintenance Area</td>
<td>Aircraft under maintenance</td>
</tr>
<tr>
<td>De-Ice</td>
<td>No traffic should park at de-ice, unless there is special need</td>
</tr>
<tr>
<td>Helicopter Terminal</td>
<td>Helicopters</td>
</tr>
</tbody>
</table>

3.2.4.1 Terminal Area

<table>
<thead>
<tr>
<th>Location</th>
<th>Stands</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>T2</td>
<td>23 – 25</td>
<td>Non-Schengen only – international stands</td>
</tr>
<tr>
<td></td>
<td>23 – 28</td>
<td>Schengen only – international stands</td>
</tr>
<tr>
<td></td>
<td>29 – 32</td>
<td>International/Domestic (Flexible stands)</td>
</tr>
<tr>
<td>T3</td>
<td>15 – 20</td>
<td>Domestic</td>
</tr>
<tr>
<td>Remote</td>
<td>1 – 11, 41 – 48</td>
<td>International/Domestic (Flexible stands)</td>
</tr>
<tr>
<td>Heli Apron</td>
<td>50 – 56</td>
<td>Helicopter operations (intl./domestic)</td>
</tr>
</tbody>
</table>
Local Operating Procedures – Flesland TMA

3.2.4.2 General Aviation
The General Aviation Parking is located next to taxiway J (Technical Apron). Flesland TWR is responsible for all VFR clearances, while GND will be in charge of start-up and taxi.

3.2.5 Pushback
Aircraft are to contact GND pushback and start. Stand number should be announced when requesting pushback.

“(Callsign) push and start approved, QNH (units)”

If immediate pushback clearance is not possible, Flesland GND are encouraged to issue a conditional pushback clearance. This can be done in various ways.

“(Callsign) give way to (traffic) passing from (left/right) behind, then push and start approved, QNH (units)”

Or:

“(Callsign) after the passing (traffic) from (left/right), then push and start approved, QNH (units)”

If the pilot in command does not report the local QNH, this is to be included in the pushback instruction.

3.2.6 Taxi
There are no specific taxi routes established at Flesland, but it is recommended that taxiway W is used for outbound traffic, while taxiway Y is used for inbound traffic.

3.2.6.1 Intersection Departures
When issuing taxi clearance to runway holding position, ATC will normally direct aircraft to runway intersections in accordance with the table below:

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Intersection Runway 17</th>
<th>Intersection Runway 35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helicopters on Heli Apron</td>
<td>A5</td>
<td>A6</td>
</tr>
<tr>
<td>Light aeroplanes (e.g. C172)</td>
<td>A2</td>
<td>A8</td>
</tr>
<tr>
<td>Other aircraft</td>
<td>Intersection will not be specified. Pilots are expected to taxi to the beginning of the runway.</td>
<td></td>
</tr>
</tbody>
</table>

Pilots are encouraged to state (preferably when on TWR frequency);

a. Ready (or not ready) for departure, (e.g. “ready for departure” or “not yet ready”)

b. Acceptable or desired intersection for departure, (e.g. “Able from A3” or “request full length”).
Chapter 4  Flesland Tower

4.1  General Responsibilities

Flesland Tower (TWR) controls movement of aircraft on the runway and the runway holding points. Departing aircraft will be handed off to the relevant Approach controller and arriving aircraft to the relevant GND controller.

TWR is responsible for all VFR traffic operating within the Flesland CTR (SFC - 2500ft). Separation between traffic shall be followed in accordance with the airspace classification (Class D), cf. ICAO PANS/ATM doc 4444.

4.2  Tower Procedures

4.2.1  Coordination between Flesland TWR and Flesland TMA

Coordination between Flesland TWR and Flesland TMA shall be in accordance with the following:

- Change of runway in use: TWR – Flesland APP West
- Snow clearance/closing of runway/landings on departure runway: TWR – Flesland APP West.
- Spacing on final: TWR – Flesland APP West/Flesland APP DIR.

4.2.2  General VR Procedures

The following regulations are in force for VFR flights operating within Flesland CTR:

a. SSR transponder is mandatory;
b. A complete ICAO Flight Plan shall be submitted prior to flight;
c. ATC Clearance shall be obtained from Flesland TWR, but can be delegated to either GND or DEL if necessary.
d. Special VFR flight, VFR night and transit flight in Flesland CTR is generally not permitted. ATC may, under certain circumstances, grant permission for such flights, based on prior approval.

VFR flights may not join final closer than 1 NM from the runway threshold.

4.2.2.1  Start-up and taxi

VFR traffic shall request start-up and taxi with Flesland GND.

Aircraft may enter or exit the Flesland CTR at an appropriate altitude via either general “compass-point” directions, a published VFR reporting point, or a non-standard/non-published visual route.

“(Callsign) cleared to enter the Flesland Control Zone from the west, (altitude) feet or below, VFR, squawk (four digits)”

It is recommended that TWR uses the published references points, see AIP Norway, AD 2 ENBR 6 – 1.

The VFR clearance should contain:

1. Aircraft identification;
2. Destination/Clearance limit;
3. Route;
4. Altitude; and
5. Squawk.
4.2.2.2 VFR Helicopter Traffic
In accordance with local and general regulations outlined in AIP Norway AD, ICAO PANS-ATM doc. 4444, as well as VFR Helikopterfraseologi.

4.2.2.3 Separation of VFR Traffic Circuit Traffic from IFR Approaches
Controllers should make use of appropriate VFR reporting points to assist in the separation and sequencing of traffic. The use of holding, orbits and other non-published visual references may be used.

4.2.3 Taxi Clearance
Prior to issuing a taxi clearance, the controller shall determine where the aircraft concerned is parked. Taxi clearances shall contain concise instructions and adequate information so as to assist the flight crew to follow the correct taxi routes, to avoid collision with other aircraft or objects and to minimise the potential for the aircraft inadvertently entering an active runway, ref. PANS-ATM Doc 4444, 7.6.3.1.1.

“(Callsign) taxi holding point (point), runway (designator) via (taxiway)”

Or:

“(Callsign) taxi via (taxiway) to holding point (point), runway (designator)”

4.2.4 Transfer of Departures
Prior to transfer of control/radar control of departing aircraft to Flesland APP, at least one of the following separations shall be established by Flesland TWR:

a. Establish and maintain radar separation between succeeding departing aircraft,

b. Establish and maintain vertical separation between succeeding departing aircraft, or

Note: Flesland TWR shall ensure that parallel departures are following cleared climb-out tracks prior to transfer of control to Flesland APP.

<table>
<thead>
<tr>
<th>SID</th>
<th>Runway</th>
<th>Handoff Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEGOD</td>
<td>17/35</td>
<td>APP-W</td>
</tr>
<tr>
<td>EPOTU</td>
<td>17/35</td>
<td>APP-E</td>
</tr>
<tr>
<td>GOKAB</td>
<td>17/35</td>
<td></td>
</tr>
<tr>
<td>INTUM</td>
<td>17/35</td>
<td>APP-W</td>
</tr>
<tr>
<td>OLDAS</td>
<td>17/35</td>
<td>APP-E</td>
</tr>
<tr>
<td>REKLI</td>
<td>17/35</td>
<td></td>
</tr>
<tr>
<td>TINIG</td>
<td>17/35</td>
<td>APP-E</td>
</tr>
<tr>
<td>TUXIL</td>
<td>17/35</td>
<td>APP-W</td>
</tr>
</tbody>
</table>

4.2.5 Departure Separation
Departing traffic should be separated based on distance in BN, and not time. All SIDs follow the same track for a longer period of time, and as such, all flights must be separated by at least 5NM on departure.

Separation can be reduced to 3NM if the tracks diverge by 45° or more immediately after departure.
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4.2.6 Missed Approach Procedures
The standard missed approach procedures are as published on approach charts. The table below outlines only the missed approach procedures for flights conducting an ILS approach to runways 17/35

<table>
<thead>
<tr>
<th>Runway</th>
<th>Missed Approach Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>CLIMB ON TRACK 170° TO 3000. EXPECT VECTORING</td>
</tr>
<tr>
<td>35</td>
<td>CLIMB ON TRACK 350° TO 3000. EXPECT VECTORING.</td>
</tr>
</tbody>
</table>

On becoming aware of, or when initiating a missed approach, Flesland TWR should instruct this traffic to fly the standard missed approach procedure. If this, however, is not safe or possible, vectors may be used. If vectors are used, Flesland TWR is to coordinate any action to the relevant Flesland APP sector.

Flesland TWR shall not transfer any flight to Flesland APP before all flights are separated.

4.2.7 Helicopter Operations
Flesland has heavy helicopter traffic to petroleum installations in the North Sea. Helicopters are allowed to use both runway 17/35 and taxiway Y for departure and landing. The helicopters will in part follow the same instrument approach procedures as other aircraft, hence delay will often be encountered.

- Departing south: Y17 “Yankee one-seven”
- Departing north: Y35 “Yankee three-five”

Line up clearance:

“(Callsign) via (holding point) line up Yankee 35”

Take off clearance:

“(Callsign) Yankee 35, cleared for take-off, (wind)”

4.3 Special Procedures

4.3.1 Low Visibility Procedures
When the manoeuvring area cannot be controlled visually (visibility less than approximately 2000m), the traffic is controlled by use of surface movement radar (SMR).

- Pilots will be informed when low visibility procedures are in operation via ATIS or voice.
- Pilots will be informed when low visibility procedures are cancelled via voice

**RVR less than 550 M**: LVP activated

**RVR less than 400 M**: Take-off not allowed.

Low visibility procedures are prompted by Flesland TWR, normally when RVR is less than 1000m or ceiling is less than 300ft. Low visibility procedure will normally be in operation when RVR is less than 550m and ceiling less than 200ft. Instrument landing systems (ILS approaches) at Flesland has the following approvals:

<table>
<thead>
<tr>
<th>Runway 17</th>
<th>Runway 35</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAT I</td>
<td>CAT I</td>
</tr>
</tbody>
</table>

4.3.2 Test Flight from Flesland
Touch-and-go traffic and instrument approach training will only be permitted during periods with low traffic.
Chapter 5  Flesland TMA

5.1  General Responsibilities
The area of responsibilities for Flesland Approach control is the Flesland TMA from base of controlled airspace up to and including FL175.
5.1.1 Flesland TMA West

**Flesland Approach West** (BR APP West) is responsible for the performance of Air Traffic Service to both IFR and VFR flights within the lateral limits of Flesland TMA (west of the dividing sector boundary), as well as the uncontrolled airspace lying underneath.

1. Flesland APP West shall verify and identify appropriate departing IFR flights flying through Flesland TMA
2. Flesland APP West will be responsible for the acceptance of releases and control of inbound flights via LUNUR, NIDGI, ETNOR, MODNI and ALUVA STARs.
3. Initial sequencing towards the Point Merge Arch West.
4. Executive co-ordination with other ATS Units.
5. Control any missed approaches flying within Flesland TMA.
6. Handle VFR operations and requests within the lateral limits of Flesland TMA.

*Note: VFR flights operating outside the lateral and below the vertical limits the Flesland TMA may contact Flesland APP West for traffic information, weather information or similar. Flesland APP West should, if traffic allows, pass necessary details to such flights.*

7. Issue landing runway to pilots on initial contact.
8. Other:
   a. Flesland APP West will take the responsibilities of Flesland APP East when closed.
   b. Flesland APP West will take the responsibilities of Flesland APP DIR when closed.
5.1.2 Flesland TMA East

**Flesland Approach East** (BR APP East) is responsible for the performance of Air Traffic Service to both IFR and VFR flights within the lateral limits of Flesland TMA (east of the dividing sector boundary), as well as the uncontrolled airspace lying underneath.

1. Flesland APP East shall verify and identify appropriate departing IFR flights flying through Flesland TMA.
2. Flesland APP West will be responsible for the acceptance of releases and control of inbound flights via LUNUR, NIDGI, ETNOR, MODNI and ALUVA STARs.
3. Initial sequencing towards Point Merge Arch East.
4. Executive co-ordination with other ATS Units.
5. Control any missed approaches flying within Flesland TMA.
6. Handle VFR operations and requests within the lateral limits of Flesland TMA.

5.1.3 Flesland Director (APP DIR) Responsibilities

**Flesland Director** (BR APP DIR) is responsible for sequencing inbound flights through Point Merge and towards the final approach.

Flesland APP DIR is responsible for the acceptance of releases and control of aircraft inbound to Flesland Airport via all standard STARs, and coordinate any non-standard practices with relevant ATS Units.
Chapter 6  Separation Minima within Flesland TMA

6.1.1  Separation Minima

The minimum horizontal separation for traffic inside Flesland TMA is 3 NM.

The minimum vertical separation is 1000ft, except between VFR aircraft below the transition altitude; then the minimum vertical separation reduces to 500ft provided that both aircraft are known and identified.

6.1.2  Wake Turbulence Separation

The Standard ICAO Wake Turbulence Separation Requirements are used at Flesland Airport. These are as specified in the PANS-ATM ICAO Doc. 4444 chapter 4.9 and 5.8.

6.1.2.1  Wake Turbulence Categories

Wake turbulence separation minima shall be based on a grouping of aircraft types into three categories according to the maximum certificated take-off mass as follows:

1. HEAVY (H) — all aircraft types of 136 000 kg or more;
2. MEDIUM (M) — aircraft types less than 136 000 kg but more than 7 000 kg; and
3. LIGHT (L) — aircraft types of 7 000 kg or less.

Helicopters should be kept well clear of light aircraft when hovering or while air taxiing.

6.1.2.2  Wake turbulence separation minima for departures from Taxiway A2 and A8

Regarding wake turbulence separation minima, a take-off from taxiway A2 on runway 17, and from taxiway A8 on runway 35, is not considered to be a departure from an intermediate part of the runway, ref. PANS-ATM ICAO doc.4444, para 5.8.3.2.

TWR will apply minimum 2 minutes separation between a LIGHT aircraft taking off from taxiway A2/A8 behind a MEDIUM aircraft taking off from taxiway A1/A9.

6.1.2.3  Arriving Flights

<table>
<thead>
<tr>
<th>Leading Aircraft</th>
<th>Following Aircraft</th>
<th>Wake Turbulence Minima Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy</td>
<td>Heavy</td>
<td>4 NM</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>5 NM</td>
</tr>
<tr>
<td></td>
<td>Light</td>
<td>6 NM</td>
</tr>
<tr>
<td>Medium</td>
<td>Heavy</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td>Light</td>
<td>5 NM</td>
</tr>
<tr>
<td>Light</td>
<td>Heavy</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td>Light</td>
<td>Nil</td>
</tr>
</tbody>
</table>

Note: “nil” signifies that separation for wake turbulence reasons alone is not necessary.
Chapter 7  Procedures for Outbound IFR Traffic

7.1  Standard Instrument Departure

<table>
<thead>
<tr>
<th>SID</th>
<th>Clearance Direct</th>
<th>Level Allocation</th>
<th>Next Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLDASxx/INTUMxx</td>
<td>See note 1</td>
<td>FL 170</td>
<td>ENSV North 124.700</td>
</tr>
<tr>
<td>GOKABxx</td>
<td>GOKAB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPOTUxx</td>
<td>EPOTU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REKLxx</td>
<td>REKLI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TINGxx</td>
<td>TINGI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TUXIxx</td>
<td>OMEXI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BEGODxx</td>
<td>BEGOD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>GUNPA</td>
<td></td>
<td>ENSV North 124.700</td>
</tr>
<tr>
<td></td>
<td>VALDI</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A “departure gate” is established between OLDAS and INTUM. Flesland TWR/APP can route traffic on OLDAS-/INTUM-SID in the following manner:

- DCT OLDAS
- DCT INTUM
- DCT TUMIM (only for traffic with destination inside Møre TMA)
- On heading inside the departure gate

* Traffic with RFL lower than FL 175, and traffic flying to an aerodrome inside Sola TMA should be transferred directly to Sola APP West.

Traffic with GUNPA/VALDI in FPL may be routed DCT GUNPA/VALDI accordingly without prior coordination.

7.1.1  Omni-directional Departures

Flesland APP should climb flights on standard omni-directional departure to FL170, or RFL if lower. Flesland APP should navigate the aircraft towards its intentional route until such time the aircraft can safely proceed direct a fix/navaid that is located along his route.

7.1.2  Non-Standard Departure Routes

Flesland APP should climb flights on non-standard departure to FL210, or RFL if lower. Flesland APP should navigate the aircraft towards its intentional route until such time the aircraft can safely proceed direct a fix/navaid that is located along his route.

7.1.3  Take-off and Climb-out

The following departure procedures is mandatory for aeroplanes with MTOM more than 7000 kg. Climb straight ahead. Turn to the west can be started at 1500ft AMSL. Turn to the east can be started at 2000ft AMSL.

7.1.4  Flights between Flesland (ENBR) and Stavanger (ENZV) Airports

7.1.4.1  Flesland TMA to Sola TMA

IFR departures to ENHD and ENZV shall insert BEGOD as the first (and only) point of the route field in the flight plan. Flights from Flesland TMA to Sola TMA are to file ODD Levels (e.g. FL130)

7.1.4.2  Sola TMA to Flesland TMA

IFR departures to ENBR shall insert ALUVA as the first (and only) point of the route field in the flight plan. Flights from Sola TMA to Flesland TMA are to file EVEN Levels (e.g. FL140)
Chapter 8 Procedures for Inbound IFR Traffic

8.1 Standard Arrival Route
The procedures for standard instrument arrival (STAR) are based on RNAV 1 and GNSS.

ENBR STAR is based on Point Merge System (PMS) and accommodates Basic Continuous Descent Operations (B-CDO). Each STAR contains segments forming a curved sequencing leg equidistant from the Merge Point (MP). The sequencing leg shall be regarded as a delay manoeuvre for use during periods with heavy traffic. All STAR procedures are described from the start point via intermediate waypoints to the MP, from where an instrument approach procedure commences.

Arriving aircraft established on the STAR can expect clearance direct to MP when traffic permits. Succeeding aircraft will subsequently be cleared direct to MP when sufficient spacing to preceding aircraft is obtained.

8.1.1 Flesland STARs – Runway 17

<table>
<thead>
<tr>
<th>STAR</th>
<th>ACC Sector</th>
<th>TMA Sector</th>
<th>COP/Routing</th>
<th>ACC Cleared Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODNIxN</td>
<td>ENSV North</td>
<td>APP West</td>
<td>MODNI</td>
<td>FL100</td>
</tr>
<tr>
<td>PESURxN</td>
<td>ENSV North</td>
<td>APP East</td>
<td>PESUR</td>
<td>FL100</td>
</tr>
<tr>
<td>LUNURxN</td>
<td>ENSV North</td>
<td>APP East</td>
<td>LUNUR</td>
<td>FL100</td>
</tr>
<tr>
<td>NIDGIxN</td>
<td>ENSV North</td>
<td>APP West</td>
<td>NIDGI</td>
<td>FL100</td>
</tr>
<tr>
<td>ALUVAxN</td>
<td>ENSV South/Sola APP West</td>
<td>APP West</td>
<td>ALUVA*</td>
<td>FL180</td>
</tr>
<tr>
<td>BADAPxN</td>
<td>ENSV South</td>
<td>APP East</td>
<td>OKTOS**</td>
<td>FL180</td>
</tr>
</tbody>
</table>

* Norway ACC Stavanger may, for sequencing purposes, route traffic west of ALUVA to GENVU-ALUVAx.
**Norway ACC Stavanger may, for sequencing purposes, route traffic east of OKTOS to DIBMA-BADABxx.

8.1.2 Flesland STARs – Runway 35

<table>
<thead>
<tr>
<th>STAR</th>
<th>ACC Sector</th>
<th>TMA Sector</th>
<th>COP/Routing</th>
<th>ACC Cleared Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODNIxP</td>
<td>ENSV North</td>
<td>APP West</td>
<td>MODNI</td>
<td>FL100</td>
</tr>
<tr>
<td>PESURxP</td>
<td>ENSV North</td>
<td>APP East</td>
<td>PESUR</td>
<td>FL100</td>
</tr>
<tr>
<td>LUNURxP</td>
<td>ENSV North</td>
<td>APP East</td>
<td>LUNUR</td>
<td>FL100</td>
</tr>
<tr>
<td>NIDGIxP</td>
<td>ENSV North</td>
<td>APP West</td>
<td>NIDGI</td>
<td>FL100</td>
</tr>
<tr>
<td>ALUVAxP</td>
<td>ENSV South/Sola APP West</td>
<td>APP West</td>
<td>ALUVA*</td>
<td>FL100</td>
</tr>
<tr>
<td>BADAPxP</td>
<td>ENSV South</td>
<td>APP East</td>
<td>OKTOS**</td>
<td>FL100</td>
</tr>
</tbody>
</table>

* Norway ACC Stavanger may, for sequencing purposes, route traffic west of ALUVA to GENVU-ALUVAx.
**Norway ACC Stavanger may, for sequencing purposes, route traffic east of OKTOS to DIBMA-BADABxx.

Norway ACC Stavanger may route traffic with RIDBO-PESUR in flightplan DCT RATUG when runway 35 is in use. This traffic shall be issued PESUR STAR and sequenced staggered with respect to traffic on PESUR and BADAB STARs. Norway ACC Stavanger shall inform Flesland APP verbally about traffic proceeding DCT RATUG.
Local Operating Procedures – Flesland TMA

8.1.3 Inbound Traffic with Non P-RNAV routes

<table>
<thead>
<tr>
<th>Runway in use</th>
<th>COP/Routing</th>
<th>Level Allocation</th>
<th>Receiving sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>RWY 17</td>
<td>MODNI-NEPAM</td>
<td>FL 100</td>
<td>APP West</td>
</tr>
<tr>
<td>RWY 17</td>
<td>ALUVA-EPADU*</td>
<td>FL 180</td>
<td>APP West</td>
</tr>
<tr>
<td>RWY 17</td>
<td>OKTOS-LEGTA**</td>
<td>FL 180</td>
<td>APP East</td>
</tr>
<tr>
<td>RWY 17</td>
<td>PESUR-GILVA</td>
<td>FL 100</td>
<td>APP East</td>
</tr>
<tr>
<td>RWY 17</td>
<td>LUNUR-GILVA</td>
<td>FL 100</td>
<td>APP East</td>
</tr>
<tr>
<td>RWY 17</td>
<td>NIDGI-NEPAM</td>
<td>FL 100</td>
<td>APP West</td>
</tr>
<tr>
<td>RWY 35</td>
<td>MODNI-RIVIP</td>
<td>FL 100</td>
<td>APP West</td>
</tr>
<tr>
<td>RWY 35</td>
<td>ALUVA-IBLIR*</td>
<td>FL 100</td>
<td>APP West</td>
</tr>
<tr>
<td>RWY 35</td>
<td>OKTOS-LEGTA**</td>
<td>FL 100</td>
<td>APP East</td>
</tr>
<tr>
<td>RWY 35</td>
<td>PESUR-GODID</td>
<td>FL 100</td>
<td>APP East</td>
</tr>
<tr>
<td>RWY 35</td>
<td>LUNUR-GODID</td>
<td>FL 100</td>
<td>APP East</td>
</tr>
<tr>
<td>RWY 35</td>
<td>NIDGI-RIVIP</td>
<td>FL 100</td>
<td>APP West</td>
</tr>
</tbody>
</table>

* Norway ACC Stavanger can, for sequencing purposes, route traffic west of ALUVA to GENU-EPADU/IBLIR according to RWY in use.

**Norway ACC Stavanger can, for sequencing purposes, route traffic west of OKTOS to DIBMA-LEGTA.

8.2 Holding Procedures

In case of holding, Norway ACC Stavanger will be in charge of the holdings at the STAR-entry point (e.g. PESUR). Flesland APP will be in charge of the established holds inside Flesland TMA in accordance with the table below:

8.2.1 ENBR Holdings

<table>
<thead>
<tr>
<th>Holding Fix</th>
<th>Inbound Track</th>
<th>Turn Direction</th>
<th>Minimum Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODNI</td>
<td>059°</td>
<td>Left turn</td>
<td>FL 100</td>
</tr>
<tr>
<td>ALUVA</td>
<td>355°</td>
<td>Left turn</td>
<td>FL 180</td>
</tr>
<tr>
<td>OKTOS</td>
<td>355°</td>
<td>Right turn</td>
<td>FL 180</td>
</tr>
<tr>
<td>PESUR</td>
<td>280°</td>
<td>Left turn</td>
<td>FL 100</td>
</tr>
<tr>
<td>LUNUR</td>
<td>204°</td>
<td>Left turn</td>
<td>FL 100</td>
</tr>
<tr>
<td>NIDGI</td>
<td>180°</td>
<td>Right turn</td>
<td>FL 100</td>
</tr>
</tbody>
</table>

8.2.2 ENSO Holdings

<table>
<thead>
<tr>
<th>Holding Fix</th>
<th>Inbound Track</th>
<th>Turn Direction</th>
<th>Minimum Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>REVTA</td>
<td>225°</td>
<td>Left turn</td>
<td>FL 100</td>
</tr>
</tbody>
</table>

8.3 Transfer of Control and Communication

8.3.1 General

Norway ACC Stavanger may as a sequencing tool instruct A/C to keep the following speeds without prior coordination:

- **Jet**: 220-260kts
- **Turboprops**: 200-240kts

Note: “Jet” includes turboprops with speed capability that is equal/ close to a jet, such as DH8D and SB20.
8.3.2 Transfer of Control

8.3.2.1 From Norway ACC Stavanger – Flesland APP

The transfer of control takes place at the AoR-boundary, unless otherwise specified.

Traffic from Norway ACC Stavanger to Flesland APP is released for turn and descent, except Common traffic affecting AoR of third party ATS-unit.

The following procedures are mirrored in all LoAs between Flesland TMA and Norway ACC Stavanger. In the following, ACC is short for Norway ACC, Flesland includes Flesland TMA sectors NW and NE, and Sola includes Flesland TMA sectors SW and SE.

The box of common interest is defined by the outer line between the points of entry and exit in the following table. For traffic outside this airspace and for traffic proceeding on routes not described in the table below, standard transfer of control area applies (see 8.3.2.1, first paragraph).

<table>
<thead>
<tr>
<th>SID/STAR</th>
<th>Points</th>
<th>COP</th>
<th>From</th>
<th>To</th>
<th>Released for</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALUVAx</td>
<td>ALUVA GENVU EPADU</td>
<td>ALUVA</td>
<td>ACC</td>
<td>Flesland</td>
<td>Left turn. Right turn north of GENVU, at or below FL 175.</td>
</tr>
<tr>
<td>ALUVAx</td>
<td>ALUVA GENVU EPADU</td>
<td>GENVU</td>
<td>Sola</td>
<td>Flesland</td>
<td>Turn.</td>
</tr>
<tr>
<td>UPDERxx</td>
<td>SOGTI BEGOD ZV500</td>
<td>SOGTI</td>
<td>ACC</td>
<td>Sola</td>
<td>Turn south of BEGOD, at or below FL150.</td>
</tr>
<tr>
<td>UPDERxx/BEGODxx</td>
<td>SOGTI BEGOD ZV500</td>
<td>BEGOD</td>
<td>Flesland</td>
<td>Sola</td>
<td>Turn.</td>
</tr>
<tr>
<td>TUXILxx</td>
<td>BR540 OMEXI TUXIL</td>
<td>TUXIL</td>
<td>Flesland</td>
<td>ACC</td>
<td>Turn above FL 180.</td>
</tr>
<tr>
<td>TUXILxx</td>
<td>BR540 OMEXI TUXIL</td>
<td>TUXIL</td>
<td>Flesland</td>
<td>Sola</td>
<td>Turn south of OMEXI.</td>
</tr>
<tr>
<td>GEDLUxx</td>
<td>NINED SOPLU GEDLU</td>
<td>GEDLU</td>
<td>Sola</td>
<td>ACC</td>
<td>Turn above FL 180.</td>
</tr>
<tr>
<td>GEDLUxx</td>
<td>NINED SOPLU GEDLU</td>
<td>GEDLU</td>
<td>Sola</td>
<td>Flesland</td>
<td>Turn north of SOPLU.</td>
</tr>
<tr>
<td>BADABxx</td>
<td>OKTOS DIBMA LEGTA</td>
<td>OKTOS</td>
<td>ACC</td>
<td>Flesland</td>
<td>Right turn. Left turn north of DIBMA, at or below FL 150.</td>
</tr>
<tr>
<td>BADABxx</td>
<td>OKTOS DIBMA LEGTA</td>
<td>DIBMA</td>
<td>Sola</td>
<td>Flesland</td>
<td>Right turn. Left turn north of DIBMA, at or below FL 150.</td>
</tr>
</tbody>
</table>

1 Listed from West to East.
2 Box entry point, TMA boundary point and box exit point.
3 COPs are mandatory routing points for the transferring unit specified in 7.1.
4 Special conditions apply. See LoA between ACC and Flesland, 8.1.
5 This traffic is released subject to mutually known traffic.
8.3.2.2 From Flesland APP – Norway ACC Stavanger
Traffic from Flesland APP to Norway ACC Stavanger is released for turn and climb.

*Note: Released for climb only if the filed level is above the silent coordinated level (see 7.1).*

8.3.3 Transfer of Communication
Norway ACC shall instruct this traffic to report speed to Flesland on first call.

Norway ACC Stavanger is to sequence its arriving traffic to ENBR inbound same COPN with **10 NM constant or 5 NM increasing.**

When initiated by Flesland TWR/APP (only during special conditions, i.e. LVP), the distance between arrivals specified above can be increased to 15NM.

8.4 Final Approach Spacing
The final approach spacing should not be less than 3 NM. The controller may increase this separation as appropriate. In order to allow a departure gap in between arrivals, at least 4 NM should be applied.

8.4.1 Type of Approaches

8.4.1.1 ILS Approach
Aircraft may execute an ILS approach for all runways. There are established four transitions that are used for clearing aircraft flying on own navigation. These are:

- NEPAM (west) for runway 17.
- GILVA (east) for runway 17.
- RIVIP (west) for runway 35.
- IDAVA (east) for runway 35.

8.4.1.2 RNAV Approach
Aircraft may execute an RNAV approach for all runways. The same transitions are used for RNAV approaches as for ILS approaches. RNAV approach is unavailable if the outside air temperature drops below -20°C.

8.4.1.3 VOR Approach
Aircraft may execute a VOR approach for runway 35, and a VOR Z approach for runway 17.

8.4.1.4 Visual Approach
Aircraft may execute a visual approach for all runways. Radar control for an aircraft maintaining own separation to a preceding aircraft in accordance with PANS-ATM ICAO Doc 4444 Chapter 6.1 may be transferred to Flesland TWR without prescribed radar or vertical separation.

Flesland TWR shall be informed when distance to preceding aircraft is less than the appropriate wake turbulence minimum, and Flesland APP has issued a caution of possible wake turbulence.

**Visual APP procedure – runway 17:** Aircraft should be cleared direct UNLEX for visual approach runway 17. When pilot has reported field in sight, Flesland APP will issue approach clearance. Additional routing:

- East: TOBAX – UNLEX
- Southeast: SUNOS – UNLEX
- Southwest: ROBIX - UNLEX
Visual APP procedure – runway 35: Aircraft should be cleared direct GITRO for visual approach runway 35. When pilot has reported field in sight, Flesland APP will issue approach clearance. Additional routing:

- Northwest: GANSO – GITRO
- Northeast/East: SUNOS – GITRO

Aeroplanes with MTOM more than 7000 kg making a visual approach, shall join final at or above 2000ft AMSL and descend below PAPI glide path shall not be executed, ref. Visual Approach Chart – ICAO, runway 17 and 35 (AD 2 ENBR 6-3 and 6-4).

8.5 Transfer of Aircraft on Final Approach

Aircraft on final approach for runway 17/35 shall be transferred to Flesland TWR West on frequency 119.10.

- For arriving IFR traffic radio communications shall be handed over as early as practicable after the aircraft is established on final approach, and no later than at 6 NM final.
- Arriving and/or transiting VFR traffic should be cleared to a CTR entry point by Flesland APP. Tower will provide onwards clearance.
- If a non-standard speed restriction has been issued by Flesland APP, all arrivals shall be instructed to report “callsign and speed only” when transferred to Flesland TWR.

Note: non-standard speed is anything but 160kt to 4NM, or unless otherwise agreed upon.

8.6 VFR Operations

8.6.1 VFR Flights under Flesland TMA

When flying in class G airspace underneath Flesland TMA, VFR flights may tune to Flesland APP West or Flesland APP East respectively for traffic information.

8.6.2 VFR Flights Operating Within Flesland TMA

In order for a VFR flight to enter and operate in Flesland TMA, two-way radio communication shall be established well in advanced.

VFR Flight must remain outside controlled airspace until Flesland APP has specifically issued a VFR entry clearance. The clearance should include:

1. Aircraft identification;
2. Route/clearance limit;
3. Altitude (at or below/at or above/at or above ..., but below, etc.);
4. Squawk; and
5. Any additional information.

Once entering Flesland TMA, Flesland APP should inform the pilots they have entered controlled airspace.