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Low Visibility Procedures (LVP)

Oslo Gardermoen

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Chapter 1. General

1.1 Purpose

The main purpose of the *ATC Training Manual Norway FIR* is to provide standardized local and general procedures for controller in Norway FIR. This document provides standardized procedures during low visibility at Oslo airport Gardermoen. We hope that this document can help you improve your aviation knowledge.

On behalf of the crew in VATSIM Scandinavia and the creator of this document, Sebastian Rekdal (Chief of Training Norway), we wish you good luck with your air traffic control (ATC) training on VATSIM, and welcome to VATSIM Scandinavia!

1.2 Credits

The *ATC Training Manual Norway FIR* was created by VATSIM Scandinavia. Original appendices published October 10, 2014 was made by Sebastian Rekdal (Chief of Training Norway). Thanks to:

- Sebastian Rekdal | Chief of Training Norway (accsca23@vatsim-scandinavia.org)

1.3 Feedback and contact information

If you have any questions, comments, suggestions or complains regarding this manual, please do not hesitate to contact us. Please let us know about your concern...

- **Chief of Training Norway** (Sebastian Rekdal): accsca23@vatsim-scandinavia.org
- **Director of Norway FIR** (Daniel Klepp): accsca4@vatsim-scandinavia.org
- **Discussion forum** (need forum-account): <http://www.forum.vatsim-scandinavia.org/>

If you find any errors, outdated procedures or typos in this manual, please do not hesitate to E-mail us: accsca23@vatsim-scandinavia.org. Help us keep the documents clean, realistic and updated!

Chapter 2. Definitions

2.1 Visibility conditions

Visibility condition 1

Visibility sufficient for the pilot to taxi and to avoid collision with other traffic on taxiways and at intersections by visual reference, and for personnel of control units to exercise control over all traffic on the basis of visual surveillance.

Visibility condition 2.

Visibility sufficient for the pilot to taxi and to avoid collision with other traffic on taxiways and at intersections by visual reference, but insufficient for personnel of control units to exercise control over all traffic on the basis of visual surveillance.

Visibility condition 3

Visibility sufficient for the pilot to taxi but insufficient for the pilot to avoid collision with other traffic on taxiways and at intersections by visual reference, and insufficient for personnel of control units to exercise control over traffic on the basis of visual surveillance. Equivalent to RVR (Runway Visual Range) 350 m or less, but more than 75 m.

Visibility condition 4

Visibility insufficient for the pilot to taxi by visual guidance only. Equivalent to RVR 75 m or less.

2.2. Low visibility procedure

Low visibility

Category II and III (CAT II/III) approaches and / or departures with RVR less than 550 m are categorized as low visibility.

Low visibility procedure (criteria)

Procedures applied at an aerodrome for the purpose of ensuring safe operations under Category II and III approaches and departures at RVR less than 550 m

2.3 Category approach operations

Category I (CAT I)

A CAT I operation is a precision instrument approach and landing using ILS (Instrument landing system), MLS (Microwave Landing System) or PAR (Precision Approach Radar) with a decision height not lower than 200ft and with visibility not less than 800 m or RVR not less than 550 m.

Category II (CAT II)

A CAT II operation is a precision instrument approach and landing using ILS or MLS with;

- i) Decision height below 200ft but not lower than 100ft, and
- ii) RVR not less than 350 m.

Category III A (CAT III A)

A CAT III A operation is a precision instrument approach and landing using ILS or MSL with;

- i) Decision height below 100ft, or no decision height, and
- ii) RVR not less than 200 m.

Category III B (CAT III B)

A CAT III B operation is a precision instrument approach and landing using ILS or MSL with;

- i) Decision height below 50ft, or no decision height, and
- ii) RVR lower than 200 m, but not less than 50 m.

Note: Oslo Gardermoen is established with CAT III B runway 01R and 19R.

Chapter 3. LVP - Gardermoen

3.1 General

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. Low visibility procedures are prompted by Gardermoen Tower, 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 Oslo Gardermoen has the following approvals:

Runway 01L	Runway 01R	Runway 19L	Runway 19R
CAT I	CAT III B	CAT I	CAT III B

- During CAT I operations; runway 01L/R and runway 19L/R can be used.
- During CAT II operations; runway 01R and runway 19R can be used
- During CAT III B operations; runway 01R and runway 19R can be used.

3.2 departure and arrival intervals

RVR Values	Arrival distance in NM	Departure start-up interval
RWY touchdown zone (TDZ) RWY ≤ 1000 m	4 NM	N/A
RWY TDZ RWY ≤ 550 m (ILS CAT II/III landing)	6 NM	1 min.
RVR lowest MID 350 m – 200 m	8 NM	2 min.
RVR lowest MID < 200 m (Visibility condition 3 / 4)	12 NM Max. 160 KIAS to DME 4.0	Prior coordination with GND.

The following table indicates the maximum number of traffic per hour when low visibility procedures are in affect.

Arrival distance in NM	Departure start-up intervals	Movements pr. Hour
5 NM	2 min.	29 ARR / 30 DEP
6 NM	2 min. 30 sek.	25 ARR / 24 DEP
7 NM	3 min.	22 ARR / 20 DEP
8 NM	3 min. 30 sek.	20 ARR / 18 DEP
10 NM	4 min.	16 ARR / 15 DEP

3.3 Runway entry/exit procedures

During visibility conditions when RVR is less than 350 m, runway entries and exits are available as follows:

Runway	01L	01R	19L	19R
Runway entry	A1, A2, A4, A5, C1	B1, B2	B6, B7, B8, B9	A9, C3, C1
Runway exit	A9, C1, C3	B6, B7, B8, B9	B1, B2	A5, A4, A2, A1, C3, C3
Runway crossing point	A7 to C3 and vice versa. C1 to A4 and vice versa (published hot spot)	Not applicable	Not applicable	A7 to C3 and vice versa. C1 to A4 and vice versa (published hot spot)

Note 1: runway crossing point is only relevant for aircraft crossing runway 01L/19R to/from GA (General Aviation) parking.

Note 2: In visibility conditions at or above RVR 400m, intersection entries are available.

Note 3: Taxiway C2 shall not be used during LVP, as this taxiway is not established with center lights.

3.4 Spacing on final

Gardermoen TWR shall keep Oslo APP informed regarding the required final approach spacing. Distance on final approach between succeeding aircraft to the same runway should, unless otherwise coordinated or decided by Gardermoen TWR, be as shown in the table below:

Minimum distance in NM	Visibility
3 NM	Visibility condition 1
4 NM	RVR \leq 1000 m
6 NM	RVR \leq 550 m (CAT II / III)
8 NM	350 < RVR > 200 m (visibility condition 3)
12 NM	200 m \geq RVR