

2015



Meteorology

SNOWTAM decoding Guide

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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 controllers in Norway FIR. This document is made in respect of the S2 students who struggle understanding local and general procedures. This document provides standardized procedures for most airports within Norway FIR (except special procedures). We hope that this document can help you improve your aviation knowledge. Our goal is to make you understand the basics behind a controller unit who is controlling within Europe (more specifically: Norway FIR).

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!

1.3 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If you find any errors, outdated procedures or typos in this manual, please do not hesitate to E-mail us: accsca23@vatsim-scandinavia.org.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. Introduction

2.1 SNOWTAM introduction

SNOWTAM is a message describing the conditions of the runways, taxiways and apron at an aerodrome. During the winter season a SNOWTAM will be issued each day in the morning, before flying starts. A SNOWTAM is valid for 24 hours, but there are rules stating that a new SNOWTAM shall be issued sooner if significant changes occur.

The SNOWTAM consist of different fields, each with its own letter, and the information is almost entirely given in code. Below are two examples of SNOWTAM with the most used fields filled in. Each aerodrome has its own SNOWTAM series, and they are numbered consecutively for the whole season, starting with 0001.

The SNOWTAM itself contains mostly codes, see *chapter 3* for example and explanation of SNOWTAM for aerodromes with two runways. Each field in the SNOWTAM is identified with a letter, if you click on each field, your browser will take you to a text with further explanations.

A SNOWTAM will be issued by the airport authority, when warranted, to notify users of the presence of, or the removal of, hazardous conditions due to snow, ice, slush or the resulting standing water on the movement surfaces of the aerodrome. The maximum validity period for a SNOWTAM is 24 hours and a new SNOWTAM will be issued whenever there is a significant change in conditions. The following runway condition related changes are considered significant:

1. A change in the coefficient of friction of approximately 0.05.
2. Changes in depth of deposit greater than the following: 20 mm for dry snow, 10 mm for wet snow, 3 mm for slush.
3. A change in the available length or width of a runway of 10 per cent or more.
4. Any change in the type of deposit or extent of coverage which requires reclassification in Items F or T of the SNOWTAM.
5. When critical snow banks exist on one or both sides of the runway, any change in the height or distance from centre line.
6. Any change in the conspicuity of runway lighting caused by obscuring of the lights.
7. Any other conditions known to be significant according to experience or local circumstances.

A typical SNOWTAM will consist of a header block, which contains the addressees, the date and time of issue and the SNOWTAM serial number, and the body of the SNOWTAM which contains all of the pertinent airfield information. The airfield information is consistently formatted as items A) through T) as follows:

- A. AERODROME IDENTIFIER
- B. DATE/TIME OF OBSERVATION (UTC)
- C. RUNWAY DESIGNATOR
- D. CLEARED RUNWAY LENGTH (if less than published length)
- E. CLEARED RUNWAY WIDTH (if less than published width)
- F. DEPOSITS OVER TOTAL RUNWAY LENGTH (Observed on each third of the runway)
- G. MEAN DEPTH OF DEPOSITS (mm) (for each third of total runway length)
- H. FRICTION MEASUREMENTS OR ESTIMATES (for each third of runway length)
- I. CRITICAL SNOWBANKS (if present)
- J. RUNWAY LIGHTS (if obscured)
- K. FURTHER CLEARING OPERATIONS (if planned)
- L. FURTHER CLEARANCE EXPECTED TO BE COMPLETED BY . . . (UTC)
- M. TAXIWAY
- N. TAXIWAY SNOWBANKS
- O. APRON
- P. NEXT PLANNED OBSERVATION/MEASUREMENT
- Q. PLAIN LANGUAGE REMARKS

Note: Please note that the letter I, O and Q are not used in such report.

Chapter 3. SNOWTAM decoding

3.1 SNOWTAM decoding example

The example to be used throughout this manual will be Oslo airport Gardermoen. Oslo airport Gardermoen is the main airport of Oslo and the main international airport of Norway. It is established with two runways - runway 01L/19R and runway 01R/19L. The SNOWTAM example below is taken on January 22nd 2015:

```
SWEN0341 ENGM 01221657
(SNOWTAM 0341
A) ENGM
B) 01221657 C) 01L
F) 7/47/47 G) XX/XX/8 H) 4/3/3
B) 01221526 C) 01R
F) 47/47/47 G) 8/8/8 H) 3/2/3
N) A3 A4 B2 B3 B4 B8/CLSD ALL REMAINING TWYS/47
R) APRON NORWEGIAN/CLSD ALL REMAINING APRONS/47
T) RWY 01L
CONTAMINATION/50/100/100/PERCENT.
SAND APPLIED.
FRICTION 2 ON TAXIWAYS. OPEN EXITS ARE SANDED.
SLIPPERY PORTIONS ON CENTRAL APRON. SLIPPERY
PORTIONS ON GA APRONS.
RWY 01R
OBSERVATION TIME RWY 01R 201501221526
CONTAMINATION/100/100/100/PERCENT.
SAND APPLIED.
FRICTION 2 ON TAXIWAYS. OPEN EXITS ARE SANDED.
SLIPPERY PORTIONS ON CENTRAL APRON. SLIPPERY
PORTIONS ON GA APRONS.
```

3.1.1 SWEN

SWEN is an international code for SNOWTAM originated in Norway , and the number indicates how many SNOWTAM has been issued for the aerodrome shown in the following field.

3.1.2 Field A

This is the ICAO 4-letter location indicator for the aerodrome.

3.1.3 Field B

This is the day-time group for when the SNOWTAM was issued. The format is month-day-hour-minute UTC.

3.1.4 Field C

This field shows which runway the SNOWTAM is for. A SNOWTAM will always tell you the conditions of a runway seen from the end with the lower designator, for example if the runway orientation is 03/21, then the conditions for runway 03 will be in the SNOWTAM.

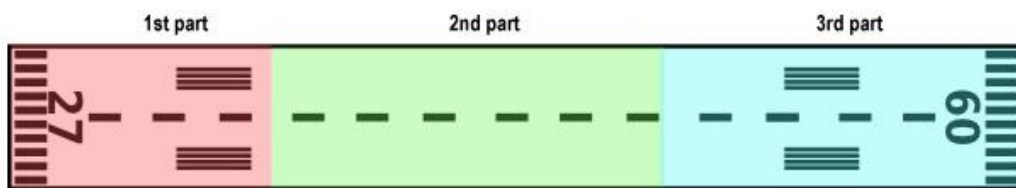
3.1.5 Field D

This field shows the cleared runway length if less than published length. If the runway length is reduced, this field will be visible in the SNOWTAM. If not, the field will not be included in the SNOWTAM report.

3.1.6 Field F

This field show runway contamination (any deposits on the runway). The runway is divided into three equal parts, and the SNOWTAM will give the values for each third divided by a slash (/). The following codes are used to describe the type of contamination:

- NIL: Clear and dry
- 1: Damp
- 2: Wet or water patches
- 3: Rime (normally less than 1 mm deep)
- 4: Dry snow
- 5: Wet snow
- 6: Slush
- 7: Ice
- 8: Compact or rolled snow
- 9: Frozen ruts or ridges.



The three parts will be mentioned as “first part”, “second part” and “third part” over the frequency when informing traffic about relevant runway conditions. However, if the runway is for example Dry snow on part one, two and part three, the controller may say “runway condition runway (rwy), dry snow (all the way)”.

As shown in the ENGM example, there may be more than one code used for each third of the RWY. If this is done, the codes will show the different layers of contamination from the top down. 48 thus indicates that there are dry snow on top of compact snow on the first third of the runway, the next third has ice (7), while the last third is covered with dry snow on ice (47).

3.1.7 Field G

Gives the average depth of the contamination, again for each third of the runway. The depth is given in millimetres, but if the depth cannot be measured, as would be the case for ice, then the letters XX are used.

3.1.8 Field H

This field indicates the braking action, the friction on the runway. Again the runway is divided into three parts, and the numbers are the mean values for each third. The braking action may be determined by measuring equipment, or estimated. If measuring equipment have been used, the friction will always be given in two digits, and an abbreviation stating which equipment was used is also shown. If the friction have been estimated, a single digit will be used.

Measured friction:

- >40: Good
- 39 ? 36: Medium/good
- 35 ? 30: Medium
- 29 ? 26: Medium/poor
- <25: Poor.

Estimated friction:

- 5: Good
- 4: Medium/good
- 3: Medium
- 2: Medium/poor
- 1: Poor
- 9: Unreliable*

Braking Action	POOR		P / M		MEDIUM					M / G		GOOD									
	91		92		93					94		95									
Coefficient μ x 100	0	10	20	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	50	100

** If unreliable is used, it is because the contamination is outside the approved range of whatever equipment is used to measure the braking action. This could either be because the contamination is too deep, or of a type that the equipment is not approved for. For example, measured friction by Grip Tester (GRT) on wet ice is considered to be unreliable and the SNOWTAM will then have the value 9 in field H).*

Field H - Friction measuring equipment used

If the friction on the runway has been measured, the type of equipment used is indicated with the following abbreviations:

BRD: Brakemeter-Dynamometer
GRT: Grip Tester
MUM: Mu-meter
RFT: Runway friction tester
SFH: Surface friction tester (high pressure tires)
SFL Surface friction tester (low pressure tires)
SKH Skiddometer (high pressure tires)
SKL Skiddometer (low pressure tires)
TAP Tapleymeter

Any other type of equipment will be stated in clear text.

3.1.9 Field N

Gives the conditions on the taxiways associated with the runway. The codes are the same as for the runway, but the taxiways are not divided into thirds.

3.1.10 Field R

Tells you what is on the apron. The codes are the same as for the runway, see section 3.1.6 and 3.1.8.

3.1.11 Field T

This is a clear text-field. In this field information of significance will be entered. If there is no text in this field, the T) will not be shown on the SNOWTAM.