



Luftfartstilsynet
CIVIL AVIATION AUTHORITY - NORWAY

A NEW WINTER 2020

Flygplatsdagen 2018 Arlanda

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The Root Cause of problems

- *Frost, Snow, Slush, Ice*
- *Primary action is*
 - *Removal!*
- *This session cover the*
 - *What If?*





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A New Winter

- *From SNOWTAM to the GRF
(Global Reporting Format)*
- *More than a change of Reporting
format*



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Content

- *Introduction*
- *What is new*
- *The system*
- *EASA work*
- *More details*
- *Special Winter Ops*
- *Summary*



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INTRODUCTION (1)

- Accidents and incidents indicate that present system not good enough.
- Trigger: Southwest B737 overrun on contaminated runway, Chicago Midway 2005.
- Work started in US involving:
 - Manufacturers, airports
 - Regulators (Not only US), other (IFALPA etc)
 - Result: TALPA recommendations
- ICAO took interest; Friction Task Force under ADOP (Norheim)

What is New?



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- Definitions related to Dry, Wet and Contaminated Runways
- **Assessment and Reporting of Runway Conditions**
- Certification criteria for aircraft performance
- Operational requirements related to the use of runway condition reports for performance calculations
- Operational requirements for feedback to aerodromes on perceived runway conditions (if worse than indicated by RWYCC)

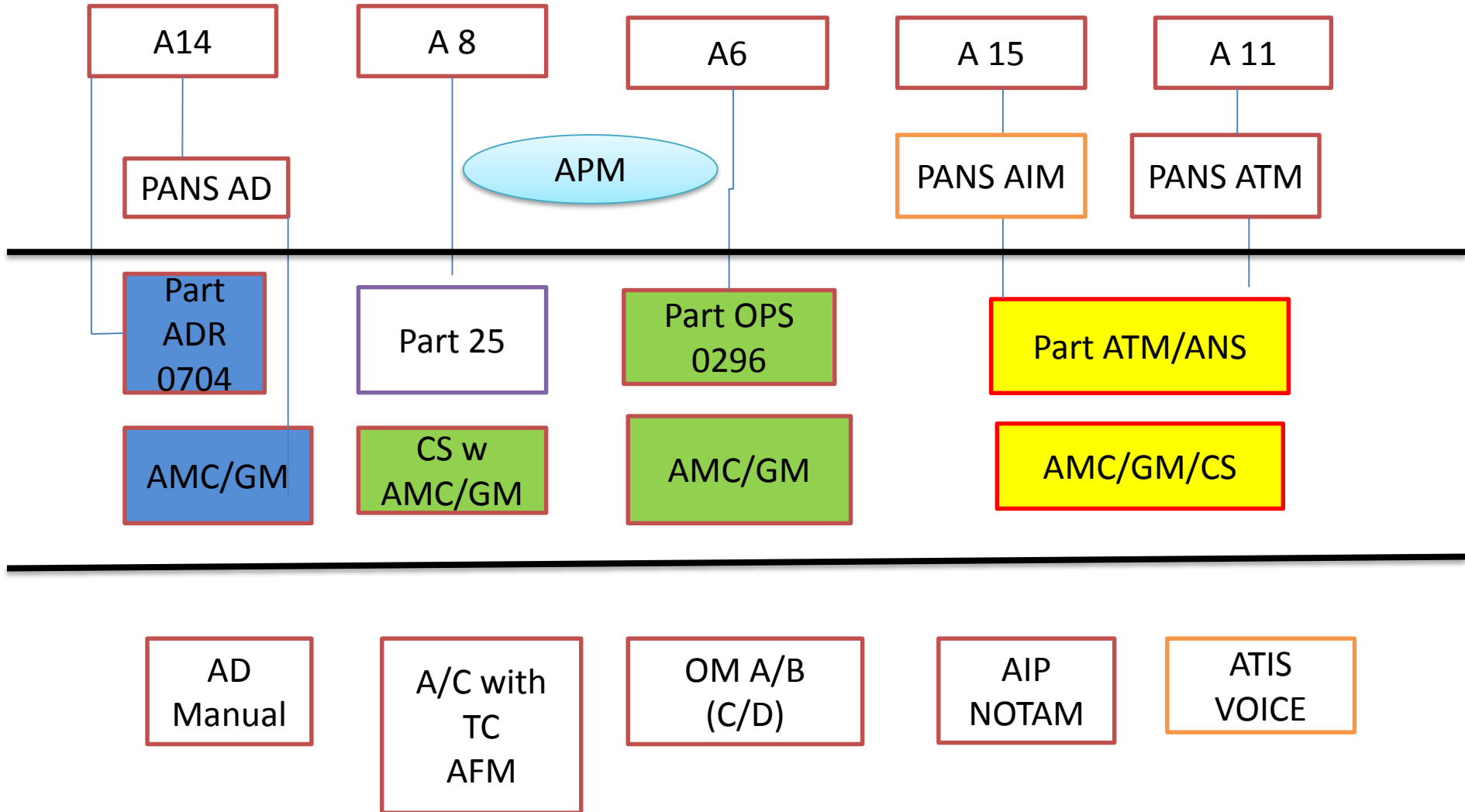


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A complex system



Doc Hierarchy Europe





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Timelines (Plan)

RMT.0296 (OPS+++)

| | | | | |
|-------|-------|---------|---------|----------|
| TOR | NPA | OPINION | COMM IR | DECISION |
| Q2/15 | Q3/16 | Q3/18 | Q3/19 | Q3/19 |

RMT.0704 (AERODROMES)

| | | | | |
|-------|-------|---------|---------|----------|
| TOR | NPA | OPINION | COMM IR | DECISION |
| Q2/17 | Q3/18 | Q1/19 | Q2/20 | Q2/20 |

- This will be a close call as Operation acc New System from Q4/20
- Coordination exists between 0296 and 0704
- Norway is represented in both - coordination with Nordic States

RMT.0704 - Task



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- Implementation of GRF (A14 & PANS-ADR)
- Definition of Minimum Friction Level
- Performance criteria for CFME
- Maintenance of pavements including snow removal and ice control plan
- Affects **AI (def)**, OR.D, E, **OPS.A, B, C**



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What is new

- **Runway condition assessment and reporting**
 - Type & depth, Runway Condition Code
 - Assessment – NOT measurements
- **Runway condition assessment and reporting**
 - SNOWTAM and MOTNE are OUT
 - RCR (Runway Condition Report) is IN
- **Operational use of runway condition reports**
- **Pilot reports compulsory if surprised**
- **NO One to One comparison with old system**

RCAM (RWY Condition Assessment Matrix)



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Based on Type and Depth of Contaminant

- Gives a Runway Condition Code (RWYCC)
- The RWYCC, Type & Depth is used by crew in the Performance calculations.

Runway Condition Assessment Matrix (RCAM)



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| RWY CC | DESCRIPTOR | PILOT REPORT |
|--------|---|----------------|
| 6 | <ul style="list-style-type: none"> • DRY | N/A |
| 5 | <ul style="list-style-type: none"> • FROST • WET (The runway surface is covered by any visible dampness or water up to and including 3 mm depth) <p>Up to and including 3 mm depth</p> <ul style="list-style-type: none"> • SLUSH • DRY SNOW • WET SNOW | GOOD |
| 4 | <p>-15°C and lower outside temperature</p> <ul style="list-style-type: none"> • COMPACTED SNOW | GOOD TO MEDIUM |
| | | |

| RWY CC | DESCRIÅTOR | PILOT REPORT |
|--------|--|----------------|
| 3 | <ul style="list-style-type: none"> • WET (“Slippery wet” runway) • DRY SNOW or • WET SNOW (any depth) ON TOP OF COMPACTED SNOW <p>More than 3 mm depth:</p> <ul style="list-style-type: none"> • DRY SNOW • WET SNOW <p>Higher than -15°C outside air temperature: COMPACTED SNOW</p> | MEDIUM |
| 2 | <p>More than 3 mm depth of:</p> <ul style="list-style-type: none"> • Water • Slush | MEDIUM TO POOR |
| 1 | ICE | POOR |
| 0 | <ul style="list-style-type: none"> • Wet ice • Water on top of compacted snow • Dry snow or wet snow over ice <p>NO OPERATIONS ALLOWED</p> | LESS THAN POOR |

UPGRADE/DOWNGRADE



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An assessment, utilising all available info, can be used, within specified limits, and based on procedures and competency to:

- DOWNGRADE to a lower RWYCC
- UPGRADE (1 & 0 only) to a higher RWYCC (Max to 3)
- All available info?????
 - Pilot reports
 - Temp/TD
 - Preparations (sand)
 - Friction measurements???

RWY Condition Report (RCR)



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Replaces the old SNOWTAM format

Two parts

a) Performance

b) Situational Awareness information

Strict format rules

In b) also a free text field



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RWY Condition Report

performance part

- RWYCC
- COVERAGE
- DEPTH
- TYPE

Each third fm lowest RWY NO (fm THR RW in use on COM)

2/3/1 75/100/100 06/12/12 SLUSH/WET SNOW/ICE

Details in PANS ADR – AMC/GM

NOTE: Friction values SHALL NOT BE REPORTED!

Special Winter Operation



The ICAO regime provides none or very limited upgrade possibilities for prepared surfaces of COMPACTED SNOW or ICE.

We propose a solution for EASA

Requires CAA approval

- Special and stringent requirements for
 - Clearing
 - Preparations
 - Assessment
 - Reporting (as required by 0296)
 - Monitoring
 - Competencies (Initial, Recurrent, Authorisation)



Special Winter Operation (2)



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Allows upgrade to max 4 based on assessment for treated
COMPACTED SNOW or **ICE**.

ADR must demonstrate competency based on **Aeroplane data prior to approval**

ADR must have a system for quality assurance/monitoring of performance based on **Aeroplane data** and Safety Performance indicators

ADR must have an arrangement with at least one operator

Primary type of treatment: Frozen (Hot-Water mix sand)

Major changes in concept.

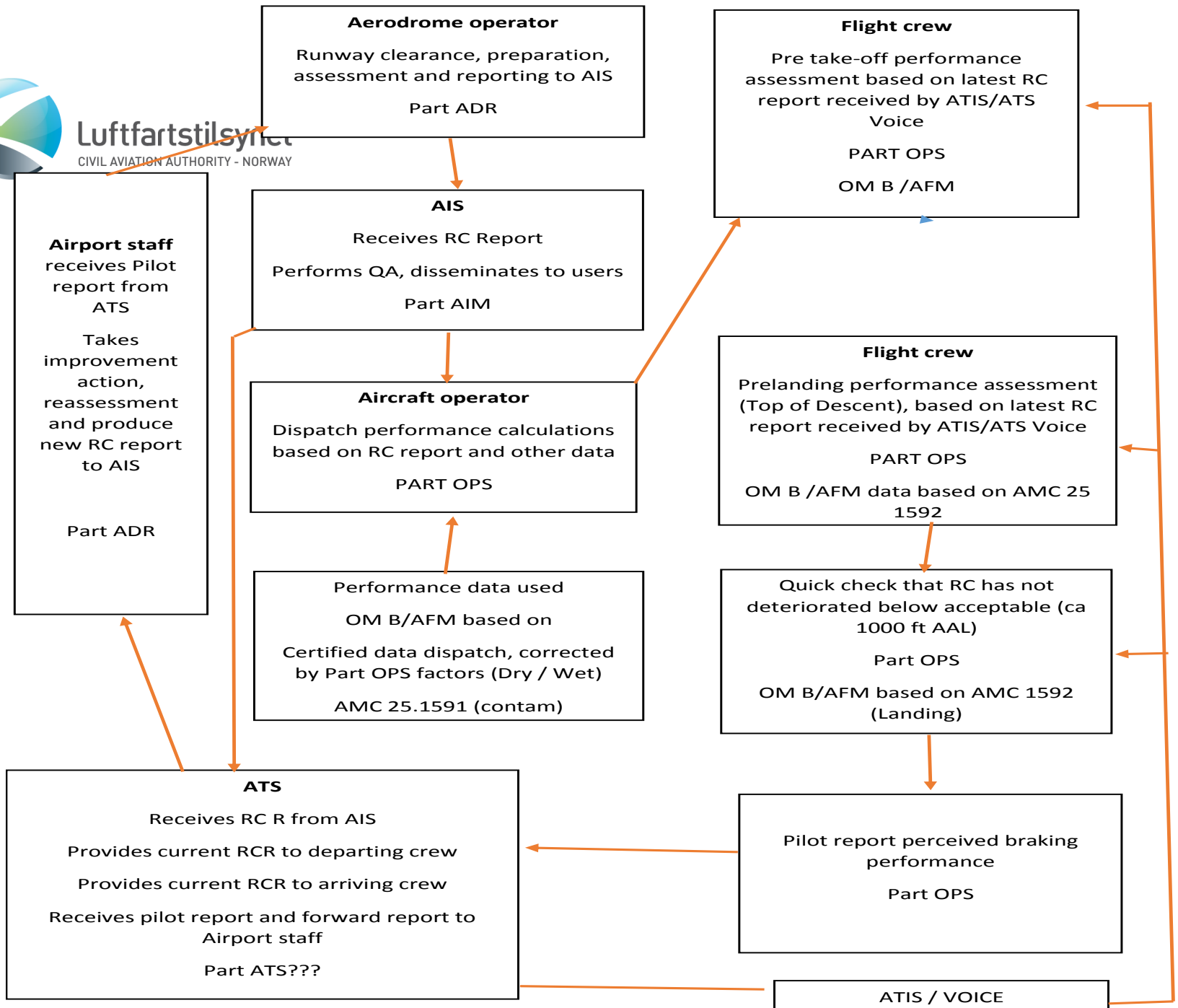
- Damp runway is out (either DRY or WET)
- Friction Measurements (winter) is out (ex as supporting tool)
- Assessment is key
- RWYCC based on type & depth
- Upgrade (within limits) and Downgrade
- RCR is the only way to report (MOTNE is also out)
- Procedures, Training and more is required

- Hope to get allowance for advanced treatment

- Standards will be established for CFME (Continuous Friction Measuring Devices) for wet-friction measurements
- Watch the EASA website for NPA in Q3

Any Questions – Look to Norway.

05 Nov 2020



Aerodrome operator

Runway clearance, preparation,
assessment and reporting to AIS
Part ADR

Flight crew

Pre take-off performance
assessment based on latest RC
report received by ATIS/ATS
Voice
PART OPS
OM B /AFM

AIS

Receives RC Report
Performs QA, disseminates to users
Part AIM

Airport staff
receives Pilot report from
ATS
Takes improvement
action, reassessment
and produce
new RC report
to AIS
Part ADR

Aircraft operator

Dispatch performance calculations
based on RC report and other data
PART OPS

Flight crew
Prelanding performance assessment
(Top of Descent), based on latest RC
report received by ATIS/ATS Voice
PART OPS
OM B /AFM data based on AMC 25
1592

Performance data used
OM B/AFM based on

Certified data dispatch, corrected
by Part OPS factors (Dry / Wet)
AMC 25.1591 (contam)

Quick check that RC has not
deteriorated below acceptable (ca
1000 ft AAL)
Part OPS
OM B/AFM based on AMC 1592
(Landing)

ATS

Receives RC R from AIS
Provides current RCR to departing crew
Provides current RCR to arriving crew
Receives pilot report and forward report to
Airport staff
Part ATS???

Pilot report perceived braking
performance
Part OPS

ATIS / VOICE



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QUESTIONS

