Snow and Ice Control Plan

Canandaigua Airport
(KIUA)

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Chapter 1

Definitions

Compacted snow - Snow that has been compressed and consolidated into a solid form that resists further compression such as an airplane will remain on its surface without displacing any of it. If a chunk of compressed snow that can be picked up by hand, will hold together or I can be broken into smaller chunks rather than falling away as individual snow particles.

Contaminant - Deposits such as frost, any snow, slush, ice, or water on an aerodrome pavement where the effects could be detrimental to the friction characteristics the pavement surface.

Contaminated Runway - For the purposes of generating a runway condition code and airplane performance the runway is considered contaminated when more than 25 percent of the runway surface area (within the reported length and the width being used) is covered by frost, ice and any depth of snow, slush, or water. When runway contaminants exist, but overall coverage is less than 25 percent or less , the contaminants will still be reported . However, a runway condition code will not be generated.

Dry (pavement) - Describes a surface that is neither wet nor contaminated.

Dry Runway - A runway is dry when it is neither wet, nor contaminated. For the purposes of condition reporting and airplane performance, a runway can be considered dry when no more than 25 percent of the runway surface area within the reported length and the width being used is covered by:
Visible moisture or dampness, or frost, slush, snow (any type), or ice. A FICON NOTAM will not be originated for the sole purpose of reporting a dry runway. A dry surface must be reported only when there is a requirement to report conditions on the remainder of the surface.

Dry Snow - Snow that has insufficient free water to cause it to stick together. This generally occurs at temperatures well below 32 degrees (0 Celsius). If when making a snowball, it falls apart, the snow is considered dry.

FICON (Field Condition Report) - Coded report of runway surface conditions issued via NOTAM to aid in determining distance required to stop aircraft on contaminated paved runway

NOTAM (Notice To Airmen) - Notices filed via NOTAM Manager online system or Flight Service to alert aircraft pilots of potential hazards along a flight route or at a location that could affect the safety of the flight. Runway Condition Codes, pavement surface conditions on runways, taxiways, and aprons will be reported as NOTAMS.

Frost - Ice crystals formed airborne moisture that condenses on a surface whose temperature is below freezing. Frost differs from ice in that the frost crystals grow independently and therefore have a more granular texture.

Ice - The solid form of frozen water to include ice that is textured (i.e., rough or scarified ice) A layer of ice over compacted snow must be reported as ice only.

Layered Contaminant - Overlapping contaminants. A list of layered contaminants has been identified in the Runway Condition Assessment Matrix (RCAM) and include:

- ❖ Dry Snow over Compacted Snow
- ❖ Wet Snow over Compacted Snow
- ❖ Slush over ice
- ❖ Water over Compacted Snow
- ❖ Dry Snow over Ice
- ❖ Wet Snow over Ice

Mud - Wet, Sticky, Soft earth material.

Runway Condition Assessment Matrix (RCAM) – Method used by airport operators to assess and report surface conditions of aircraft movement areas

Runway Condition Code (RwyCC) - Numeric code derived from RCAM. The reported codes serve airplane operators to conduct a takeoff and/or landing performance assessment. See appendix

Slush - Snow that has water content exceeding a freely drained condition such that it takes on fluid properties (e.g., flowing and splashing) Water will drain from slush when a handful is picked up. This type of water-saturated snow will be displaced with a splatter by a heel and toe slap – down motion against the ground.

Slush over ice – Slush over ice

Slippery When Wet Runway - A wet runway where the surface friction characteristics would indicate diminished braking action as compared to a normal wet runway,

Water - The liquid state of water. For purpose of condition reporting and airplane performance, water is greater than 1/8-inch (3mm) in depth.

Wet Runway - A runway is wet when it is neither dry no contaminated. For purpose of condition reporting and airplane performance, a runway can be considered wet when more than 25 percent of the runway surface area within the reported length and the width being used is covered by any visible dampness or water that is 1/8 inch or less depth.

Wet Ice - Ice that is melting or ice with a layer (any depth) on top.

Wet Snow - Snow that has grains coated with liquid water, which bonds the mass together, but that has no excess water in the pore spaces. A well-compacted, solid snowball can be made, but water will not squeeze out.

Chapter 2

Pre-Season Actions

2.1 Airport Management /Contractor Pre-Season Meeting

The Airport Manager will initiate a meeting with snow removal contractor(s) in September time frame to discuss equipment inventory, repair needs, staffing, budget, training, previous year's issues, and any other topics associated with snow and ice control and its plan. The contractor(s) shall have a snow removal personnel trained on all equipment used at the Canandaigua Airport. All snow removal equipment is to be serviced, repaired and ready by October 15th.

Chapter 3

Post Event/Seasons Actions

3.1 Post Event

After each snow event the contractor and the airport manager shall do a complete inspection, paying close attention runway and taxiway lights, signs, markings and snow banks. Any noted discrepancies are to be corrected immediately. The airport manager may host a meeting and invite the contractor's personnel to discuss any issues from the event.

3.2Post Season

After each snow season the airport manager will hold a meeting with the contractor(s) to review any snow season issues and proposed changes to the Snow Plan. The same topics as pre-season are reviewed.

Tenants are also encouraged to meet with the airport manager and contractor to discuss any issues they may have.

Chapter 3

Snow Removal Action Criteria

3.1 *Activating Snow Removal Personnel*

The Canandaigua Airport Snow Removal Contractor is responsible for snow and ice removal operations on all the airports runways, movement and non- movement areas, roadways (airside and landside) and car parking lots.
The Airport Manager has the primary responsibility of disseminating airport information, issuing Field Condition Report (FICON) through the Notice of Airmen (NOTAM) system and implementing closures of any runways, taxiways and/or apron areas due to inclement weather conditions.
The Snow Removal Contractor will have adequate numbers of personnel available (on call) 24 hours a day 7 days a week, year round to handle any weather that may impact the airport conditions.

a) Weather Forecasting

The Airport Manager or the contractor under the direction of the Airport Manager is responsible for the monitoring internet and local TV weather broadcasts.

b) Responsibilities

- Airport Manager maintains overall responsibility for snow removal operations. Determines staffing needs based upon current and/or forecasted weather conditions.
- Snow Removal Contractor monitors pavement conditions to adjust equipment and staffing as needed.
- Each will share responsibility for maintaining current NOTAMs and is familiar with NOTAM procedures.

c) Initiating Snow Removal Operations

Snow removal operations will normally commence whenever there is an accumulation of precipitation on the runway surfaces or whenever a POOR to NIL braking action is reported. Time of day, temperature and precipitation forecasts and anticipated aircraft operations are also factors in determining when snow removal will initiate.

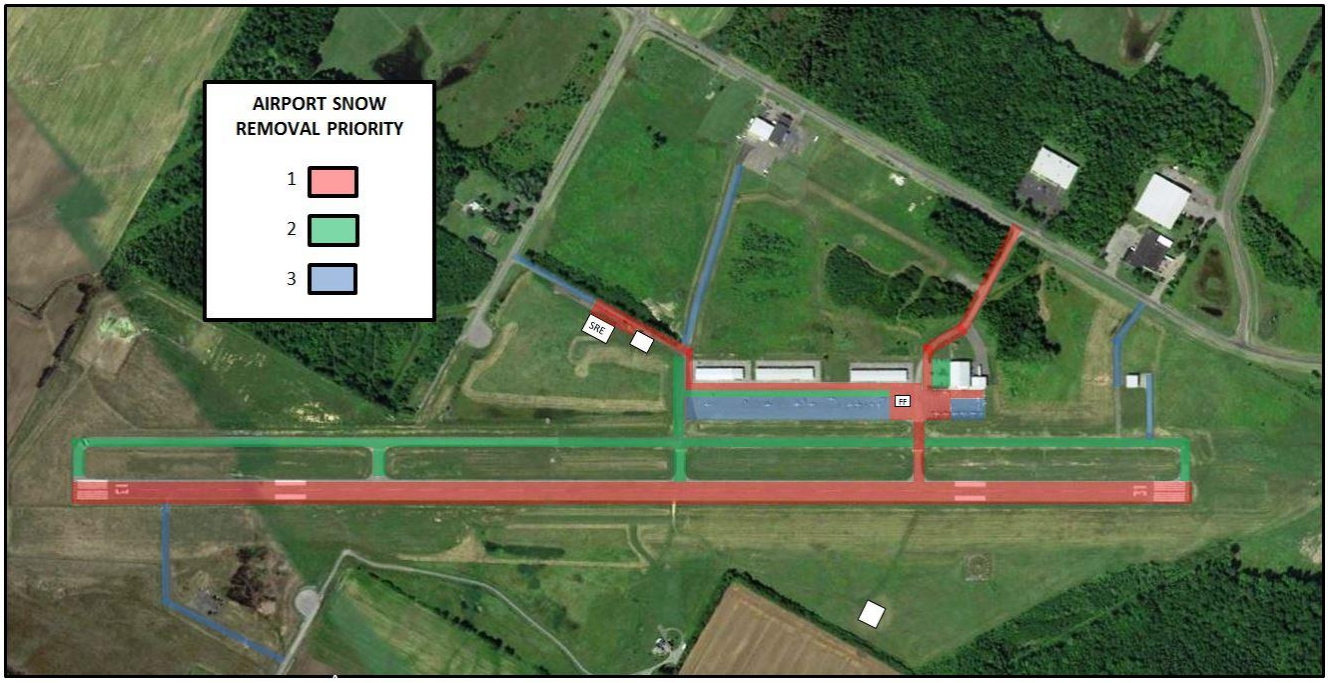
General Snow Removal Operation Triggers	
Precipitation	**Depth in Inches**
Slush	1”
Wet Snow	1”
Dry Snow	2”
Ice or freezing Rain	NIL Braking

3.2 *Airfield Clearing Priorities*

a) Priority 1 (Marked in Red on the Airport snow removal map.)
   - Access from entry road to SRE Building
   - Main airport entrance roadway to gate
   - Taxi lane B
   - Runway
   - Taxi lane A
   - Fuel Farm and FBO Ramp

b) Priority 2 (Marked in Green on the Airport snow removal map.)
   - Car parking lot
   - Additional passes along T-hangars
   - 2-3 passes along parking lot fence (tie-down 1&2) and hangars 2&3
   - Taxi lanes C & D

c) Priority 3 (Marked in Blue on the Airport snow removal map.)
   - Parking lot
   - Remaining ramp area in front of hangers 2 and 3
   - Mercy Flight taxi lane
   - Taxiway to hanger 1
   - Back side of T-hangars
   - Ramp in front of T-hangars
   - Driveway through Gate 1
   - Driveway through Gate 3
   - Driveway through Gate 4



3.3 *Sufficient Equipment*

The Canandaigua Airport has approximately 5 pieces of equipment set up for snow removal.

- 2014 Case loader with plow and wing,4 yard bucket pusher
- 2005 Sterling dump truck / Plow
- New Holland TV145 tractor with a small pusher and snow blower
- 8' snow blower
- Kubota RTV with a plow
- Kodiak Sweeper Broom
- International dump with plow and wing

3.4 *Storage of Snow Removal Equipment*

Primary Snow Removal Equipment (SRE) will be parked inside SRE building, located off the Gate #3 access road. where mobile serviced and maintained by the contractor, all maintenance and repairs are reported to the airport manager. All equipment is inspected before and after each snow event.

3.5 *Snow Disposal*

After any large snow event, any snow that needs to be removed shall be stockpiled at the following location:

1) Into storm runoff ditches
2) Along the side of the driveway to gate No.1
3) In the gravel area between hangers 4 and 5
4) Along the side of the driveway to gate No.3
5) At the storage area near gate No.4

3.6 *Controlling of Snowdrifts*

In the event that snowdrifts become a problem the Airport Manager will instruct the contractor

to install snow fence at the needed location.

3.7 Low Visibility

At the direction of the Airport Manager or the Contractor whenever the visibility gets too low for safe plow conditions snow removal will stop and all equipment shall be removed from the movement area until safe visibility returns.

Chapter 5

Runway Surface Assessment Reporting

5.1 Conducting Surface Assessments

The Airport Manager is responsible to monitor all paved surface conditions in order to carry out appropriate maintenance actions in accordance with the Snow an Ice Control Plan. The airport strives to maintain a 'no worse than wet' surface condition. Afield Condition Report (FICON) is provided whenever the pavement condition is less than bare and dry. Field condition reporting must conform to FAA Advisory Circular 150/5200-30 (current Edition) and the ATCT LOA "Reporting Airport Movement Area Conditions"

- Runway / taxiway conditions are reported via NOTAM Manager whenever there is contamination on the runway or taxiway, such as snow, slush, ice or water.
- Whenever a runway a runway is not cleared full width, the FICON NOTAM will reflect the actual conditions (i.e. 80 foot plowed center, 1 inch dry snow on edges.)
- The Canandaigua Airport Uses NOTAM Manager for the collection, dissemination and logging of the airport information.

5.1.1 Conducting surface Assessments

- During snow and ice conditions events, the runway and taxiway conditions are updated at least once a day or as conditions change. The Airport Manager will perform field inspections whenever the following occurs:
  - Rapidly changing atmospheric conditions
  - Active winter weather event
  - PIREP reporting a braking action of POOR

5.2 Applying the Runway Condition Assessment Matrix (RCAM).

a) Determining Runway Conditions

The Canandaigua Airport Manager will conduct a field inspection whenever there is contamination on the runway. The Manager will then issue the NOTAM and the Runway Condition Code (RWYCC) if applicable. The listed contaminants are the ones recognized and used for reporting purpose. When reporting a runway condition, a depth is mandatory with those contaminants marked by an asterisk (*)

- Ash
- Compacted snow
- Dry Snow
- Dry snow over ice
- Dry snow* over compacted snow
- Ice
- Mud*
- Oil
- Sand
- Slippery When Wet
- Slush*
- Slush* over ice
- Water* (> than 1/8" depth)Frost
- Water* over compacted snow
- Water* over ice
- Wet (water ≤1/8" depth or less)
- Wet ice
- Wet snow*
- Wet snow* over compacted snow
- Wet snow* over ice

Step 1: Runway Condition Codes (RWYCC) Applicability
If contaminant percentage is greater than 25 percent of runway, the type and depth for each third of the runway will be reported informing airplane operators of the contaminant present, and the associated codes for each third of the runway.

Step 2: Apply Assessment Criteria
Based on the conditions observed, the associated RwyCC from the RCAM for each third of the runway will be assigned.

Step 3: Validating Runway Condition Codes
If observations determine that RwyCCs assigned accurately reflect the runway conditions and performance, no further action is necessary, and the RwyCCs generated may be disseminated.

TABLE 1-1. OPERATIONAL RUNWAY CONDITION ASSESSMENT MATRIX (RCAM) BRAKING ACTION CODES AND DEFINITIONS

Assessment Criteria		Control/Braking Assessment Criteria	
Runway Condition Description	RwyCC	Deceleration or Directional Control Observation	Pilot Reported Braking Action
• Dry	6	---	---
• Frost • Wet (Includes damp and 1/8 inch depth or less of water) *1/8 inch (3mm) depth or less of:* • Slush • Dry Snow • Wet Snow	5	Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	Good
-15 °C and Colder outside air temperature: • Compacted Snow	4	Braking deceleration OR directional control is between Good and Medium.	Good to Medium
• Slippery When Wet (wet runway) • Dry Snow or Wet Snow (any depth) over Compacted Snow *Greater than 1/8 inch (3 mm) depth of:* • Dry Snow • Wet Snow *Warmer than -15 °C outside air temperature:* • Compacted Snow	3	Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	Medium
Greater than 1/8 inch (3 mm) depth of: • Water • Slush	2	Braking deceleration OR directional control is between Medium and Poor.	Medium to Poor
• Ice	1	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	Poor
• Wet Ice • Slush over Ice • Water over Compacted Snow • Dry Snow or Wet Snow over Ice	0	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	Nil

b) Downgrade Assessment Criteria

When observations indicate a more slippery condition then generated by the RCAM, the Airport Manager may downgrade the RwyCC. When applicable, the down grade of RwyCCs may be best on friction Mu(u) readings, vehicle control or pilot reported braking action or temperature.

NOTE: Temperatures near and above may cause contaminants to behave more slippery than indicated by the runway condition code given in the RCAM. At these temperatures, airport manager should exercise a heightened awareness of the airfield conditions, and should downgrade the RwyCC if appropriate.

c) Upgrade Assessment Criteria Based on Friction Assessment

RwyCCs 0 or 1may only be upgraded when the following requirements are met.

1) All observations, judgment, and vehicle braking action support a higher RwyCC, and
2) Mu values of 40 or greater are obtained for the affected third(s) of the runway by a calibrated friction measuring device.
3) This ability to raise the reported RwyCC to no higher than a code 3 can only be applied to those runway conditions listed under code 0 and 1 in the RCAM.
4) Continual monitoring of the runway surface as long as the higher code is in effect to ensure that the runway surface condition does not deteriorate below the assigned code.
    a. The extent of the monitoring must consider all variables that may affect the runway surface condition. Including and precipitation conditions, changing temperature, effects of wind, frequency of runway use, and the type of aircraft using the runway.
    b. If sand or other approved runway treatments are used to satisfy the requirements for issuing a higher runway condition code, the monitoring program must confirm continued effectiveness of the treatment

5.3 (Reserved)

5.4 Taxiway, and Apron Assessments

Assessments to these surfaces will occur when contaminants are present, and whenever a contaminant is present on the surface. Assessments will occur anytime the pavement is worse than wet. Surfaces will be monitored on a regular, continual basis.

5.5 Surface Condition Reporting

Personnel responsible for implementing the SICP will carefully monitor changing airfield conditions and disseminate information about those conditions via the NOTAM Manager System.

Runway: Runway condition reports will occur when contaminants are present on a runway surface via the Federal NOTAM System. FICON and RwyCCs will be updated as necessary whenever conditions change, such as such as a contaminant type, depth, percentage or

treatment/width change. RwyCCs will be updated whenever the runway in use changes. Runway conditions are updated at least once per day or whenever the conditions change. (i.e.: snow accumulation, rain, drying etc.) Braking action reports of "poor" from pilots will also require an update runway conditions'

Taxiway, and Apron: Taxiway and Apron condition reports will occur when contaminants are present on these surfaces via the Federal NOTAM System. NOTAMS will be updated as necessary whenever conditions change, such as a contaminant type, depth, percentage or treatment/width change. Taxiway and Apron conditions are update day least once per day or whenever the conditions change. (i.e.: snow accumulation, rain, drying etc.)

The term 'DRY' is used to describe a surface that is neither wet nor contaminated. While a FICOM NOTAM is not generated for the sole purpose of reporting a dry runway, a dry surface will be reported when there is need to report conditions on the remainder of the surface. (For example: snow is present on the first two thirds of the runway.)

5.6 Reportable Contaminants without Performance Data

If present, unable to be removed, and posing no hazard, mud will be reported with a measured depth. Ash, oil, sand, and rubber contaminants will be reported without a measured depth. These contaminants will not generate a RwyCC.

5.7 Slippery When Wet Runway

For runways where the friction surface (for the purpose of pavement maintenance) indicates the averaged Mu value at 40 mph on the wet pavement surface failed to meet the minimum friction level classification specified in AC 150/5320-12, the airport will report via the NOTAM system a RwyCC of a '3' for the entire runway (by thirds 3/3/3) when the runway is wet.
A runway condition description of ' Slippery When Wet' will be used for this condition.
If it is determined by the airport that a downgrade is necessary, the downgrade will be made on all three runway thirds match (i.e. 3/3/3, 2/2/2, 1/1/1).
The NOTAM will be canceled when the minimum runway friction level classification has been met or exceeded.

5.8 *Requirements for Runway Closures*

Runways receiving a NIL braking (either a PIREP or by a braking action assessment by the airport operator) are unsafe for aircraft operations. Whenever the breaking action of either NIL or Poor to NIL is received, per the LOA, that runway or taxiway will be considered closed until the Airport Manager inspects the surface and improves the braking action.

- The Runway will also be considered closed whenever there is:
  - 2 inches of dry snow
  - ½ inch wet snow or slush on the runway surface.

5.9 Continuous Monitoring and Deteriorating Conditions.

Under deterioration conditions, Airport Manager will take all responsible steps using available equipment and materials that are appropriate for the conditions to improve the braking action. If braking action cannot be improved, the surface is not NIL, the Airport Manager will continually monitor the runways, taxiway, and aprons to ensure the braking does not become NIL.

Including but not limited to:

- Frozen or freezing precipitation
- Falling air or pavement temperatures that may cause a wet runway to freeze.
- Rising air or pavement temperatures that may cause frozen contaminants to melt.
- Removal of abrasives previously applied to the runway due to wind or airplane effects.
- Frozen contaminants blown onto the runway by wind.

In addition the Airport Manager will maintain continuous monitoring of the active runway and taxiways when there is winter weather event. Whenever the airport is in a Continuing Monitoring operation, the Airport Manager may require the Contractor to assist in the monitoring of the pavement conditions

- Monitoring the runway and taxiway surface conditions
- Monitoring the weather conditions and the forecast.