

Burke Lakefront Airport Certification Manual
Snow and Ice Control Plan

Chapter 3

Snow Removal Action Criteria

3.1 Activating Snow Removal Personnel

Operations agent on duty will be responsible for monitoring field conditions. When they have determined a snow removal operation is needed, the call in procedure of all maintenance men, maintenance manager and heavy duty mechanic will commence.

a) Weather Forecasting

Operations will be responsible to monitor the current weather and forecasts on a continuous basis. Sources available are Weather Forecasting Incorporated located at the airport, National Weather Service, Intellicast, or Flight Tracker. The airport currently does not have pavement surface sensors.

b) Chain of Command

Operations personnel will be responsible to monitor the airfield as precipitation and airfield changes dictate. The airfield will be inspected by operations personnel using the Bowmonk BR700 or Tapley Brakemeter. Operations personnel will initiate the call in procedure notifying the snow removal personnel by home phone, cell phone. A call ahead plan is in effect at Burke Lakefront Airport which means 2 personnel will be called in 2 hours prior to a snow removal operation that may commence to perform vehicle inspections. The vehicle inspections will determine which vehicles are ready to begin snow removal once the balance of the crew arrives so as not to delay the start of snow removal operations. If it is believed snow removal procedures may begin shortly after the end of the maintenance shift, the maintenance personnel will be held over.

c) Triggers for Initiating Snow Removal Operations

Snow or Ice removal operations will commence according to the chart below.

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Precipitation	Depth in Inches
Slush	1/2"
Wet Snow	1"
Dry Snow	2"
Ice or Freezing Rain	Start of Precipitation

These triggers will be measured by a ruler or determined by changing weather conditions. Ie: wind speed, wind direction, forecast, current snowfall, etc.

3.2 Personnel Responsibilities

a) Operations

1. Notifying management of current conditions
2. Continuous airfield monitoring
3. Notifying snow removal crew to commence snow removal operation
4. Filing and updating appropriate NOTAM's

b) Maintenance

1. Snow/Ice removal on all runways, taxiways, ramp and roadways
2. Determination of chemical application
3. Vehicle inspections

c) Heavy Duty Mechanic

1. Vehicle maintenance
2. Snow/Ice removal as needed

3.3 Snow Control Center

Burke Lakefront Airport does not have a separate SCC. Any determination is coordinated by airport management at the operations desk.

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3.4 Airfield Clearing Priorities

a) Priority 1

Runway 6L/24R the instrument runway, taxiways "A", "H" and parallel Taxiway "G" connecting Runway 6L/24R receive the first priority. The drive leading from the ARFF Station to the airfield is plowed upon first notification that snow removal will commence. The runway will be plowed in the direction of the wind to the opposite side of the runway where the blower will blow the windrow beyond the edge lights into the grass areas. Same scenario for the taxiways also.

b) Priority 2

Runway 6R/24L and taxiways "B", "C", "D", "E", "F" and the aircraft parking area are secondary priorities. These areas will be plowed in the same manner as the areas in Priority 1 but are of less importance.

c) Priority 3

These areas do not support aircraft operations. They include roadways, walkways, and automobile parking areas.

Aitheras Aviation and Signature Flight Support are responsible for the Snow removal on their respective ramps.

3.5 Airfield Clearance Times

Table 1-1 refers to the clearance times for Non-Commercial Service Airports that Burke Lakefront Airport operates under.

Annual Airplane Operations (includes cargo operations)	Clearance Time (hours)
40,000 or more	2
10,000 – but less than 40,000	3
6,000 – but less than 10,000	4
Less than 6,000	6

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4.2 Controlling Snow Drifts

The layout of the airport restricts any snow fence or snow trenches from being constructed to reduce drifts. Any fence or trench would be within the Runway Safety Areas. The airport controls drifts by high speeding them off runways and taxiways once they reach a depth of no greater than 2 inches.

4.3 Snow Disposal

If necessary, snow would be loaded in a dump truck and hauled to an area away from all runways and taxiways and disposed of in this designated area.

4.4 Methods for Ice Control and Removal

Burke Lakefront Airport applies Potassium Acetate prior to an ice storm occurrence. If the temperatures are such that anti-icing does not work, the same Potassium Acetate will be applied directly on the ice to control its accumulation. The airport has a 4,000 gallon storage tank and the Potassium Acetate is applied by airports 2,500 gallon sprayers.

4.5 Sand

The airport utilizes sand to meet FAA gradient standards referred to in figure 4-3. The sand is stored in a heated garage and applied by a Tandem Rotary Spreader. Sand is used once the runways and taxiways have been plowed full length and width to increase pavement friction raising the RCC numbers.

Figure 4-3. Standard Gradation for Sand

Sieve Designation	Percent by Weight Passing
8	100
80	0-2

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Chapter 5

Runway Surface Assessment Reporting

5.1 Conducting Surface Assessments

A runway condition assessment is provided whenever the pavement condition is worse than bare and wet. Airport Operations personnel will remain aware and inspect as needed, paved surface conditions in order to plan and carry out appropriate maintenance actions with the Snow and Ice Control Plan. The airport strives to maintain a 'no worse than wet' surface condition.

When a contaminant is detected on runway surfaces an inspection is conducted by operations personnel in a vehicle equipped with a Tapley or Bowmonk to determine the contaminant type, depth, and friction. Once a contaminant is determined, the information is disseminated through NOTAM Manager System using the Runway Condition Assessment Matrix.

Runway conditions are inspected by airport operations personnel and an update is sent as the need arises. Some conditions that determine an update are rising or falling temperatures, active snow event, a completion of a plowing, brooming, deicing, or sanding procedure. At Burke Lakefront Airport there is no timeline when a condition changes. An update is disseminated as needed.

Airport operations personnel are responsible for disseminating NOTAM's whenever a contaminate is detected. Airport Operations is 24 hours 7 days a week. Inspections on paved surfaces may be taken as needed during an active snow and updates relayed as necessary. A NOTAM is issued through the Federal NOTAM System (NOTAM Manager) and is used to disseminate airport conditions.

5.2 Applying the Runway Condition Assessment Matrix (RCAM)

a) Determining Runway Conditions

The Tapley or Bowmonk in a vehicle, and/or visual inspection is used to determine type of contaminant present on paved surfaces. The surface contaminant will be inserted into the RCAM from the approved list of contaminants in the chart on Page 5-16.

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Runway Condition Assessment Matrix (RCAM)				
Assessment Criteria		Downgrade Assessment Criteria		
Runway Condition Description	Code	Mu (μ)¹	Vehicle Deceleration Or Directional Control Observation	Pilot Reported Braking Action
• Dry	6	40 or Higher		
• Frost • Wet (Includes damp and less than 1/8 inch depth of water) <i>Less than 1/8 inch (3mm) depth of:</i> • Slush • Dry Snow • Wet Snow	5			
-15°C and Colder outside air temperature: • Compacted Snow	4	39	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 <i>1/8 inch depth or greater of:</i> • Dry Snow • Wet Snow <i>Warmer than -15°C outside air temperature:</i> • Compacted Snow	3	30	Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	Medium
<i>1/8 inch depth or greater of:</i> • Water • Slush	2	29	Braking deceleration OR directional control is between Medium and Poor.	Medium to Poor
• Ice ²	1	21	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	Poor
• Wet Ice ² • Water on top of Compacted Snow ² • Dry Snow or Wet Snow over Ice ²	0	20 or Lower	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	Nil

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The following steps will be taken to determine a Runway Condition Code (RwyCC):

Step 1: Runway Condition Code (RwyCC) applicability:

If 25 percent or less of the overall runway length and width or cleared width is covered with contaminants, RwyCC's must not be applied, or reported. Burke Lakefront Operations in this case will just report the contaminant percentage, type and depth for each third of the runway, to include any treatments or improvements.

OR

If the overall runway length and width coverage or cleared width is greater than 25 percent, RwyCC's must be assigned, and reported, informing aircraft operators of the contaminant present, and associated codes for each third of the runway.

Step 2: Applying the Assessment Criteria:

Based on the contaminants observed; the associated RwyCC from the RCAM on Page 5-16 for each third of the runway will be assigned.

Step 3: Validating the Runway Condition Codes (RwyCC's):

If the observations determine that the RwyCC's assigned accurately reflect the runway conditions and performance, no further action is necessary, and the RwyCC's will be disseminated.

Other factors that are considered when conducting contaminant assessments:

- After any type of snow removal operations or chemical application including sand has been applied, and 25 percent or less of the overall runway length and width are cleared, but covered with contaminants, report the contaminant percentage, type and depth for each third of the runway.
- Immediately following an aircraft incident or accident on the runway.
- Following any natural disaster. Ie: lightning strike, tornado, etc.

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b) Downgrading the Assessment Criteria

When observations indicate a more slippery condition than originally generated by the RCAM, Burke Airport may downgrade the RwyCC's. The downgrade may be based on friction readings, vehicle control, or pilot reported braking action, or temperature.

c) Upgrading the Assessment Criteria Based on Friction Assessments

RwyCC's of 0 or 1 may only be upgraded when the following requirements are met.

- All observations, judgement, and vehicle braking action support the higher RwyCC and
- The Tapley readings of 40 or greater are obtained for the affected third(s) of the runway.
- The 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.

d) Monitoring

Burke Operations will continue to monitor the runway surface as long as the higher code is in effect to ensure the runway surface condition does not deteriorate below the assigned code.

The extent of monitoring must consider all variables that may affect the runway condition, including any precipitation conditions, changing temperatures, effects of wind, frequency of runway use, and type of aircraft using the runway.

If sand or other approved runway treatments are used to satisfy the requirements for issuing the higher runway condition code, the monitoring program must confirm continued effectiveness of the treatment.

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5.3 Runway Friction Surveys, Equipment, and Procedures

An Electronic Decelerometer Bowmonk BR 700 is used to conduct runway friction. In the event the BR 700 is inoperable, a mechanical Tapley is used.

a) Conditions Acceptable to Use the Decelerometer or Friction Measuring Equipment to conduct Runway Friction Surveys on Frozen Contaminated Surfaces.

The data obtained from the BR700 or Tapley Friction Measuring Device surveys are only considered to be reliable when the surface is contaminated under any of the following conditions:

1. Ice or wet ice
2. Compacted snow at any depth
3. Dry snow 1 inch or less
4. Wet snow or slush 1/8 inch or less

b) When to Conduct

Friction assessments should be conducted if any of the following occurs:

- When the central portion of the runway, centered longitudinally along the runway centerline is contaminated 500 feet or more.
- After any type of snow removal operations, chemical application, or sanding have occurred.
- Immediately following any aircraft accident or incident on the runway.
- Following any natural disaster (ie: tornado, hurricane, flood, etc.)

c) How to Conduct

Friction tests are done 20 to 30 feet either side of centerline in the direction of arriving aircraft every 1,500 feet the length of the runway at a speed of 35 MPH. The readings are reported from which end of the runway the friction began, using the terms touchdown, midpoint, and rollout, and are completed in one pass.

d) Calibration

The Bowmonk BR 700 Friction measuring equipment and Tapley are calibrated once every 2 years.

e) Out of Service Equipment

A NOTAM will be issued whenever the BR700 or Tapley is out of service. This NOTAM will remain in effect until either the BR700 or Tapley is available for use.

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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

Airport Operations personnel will carefully monitor changing airfield conditions and disseminate information regarding those conditions via the Federal NOTAM System in a timely manner to airport users.

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

Taxiway and Apron: Taxiway and Apron condition reports will occur when contaminants are present on the surfaces and disseminated via the Federal NOTAM System. NOTAMS will be updated as necessary whenever conditions change such as contaminant type, depth, percentage or treatment.

Additional reporting will be to the ATCT via phone call or tower frequency, and a call to Signature Flight Support of surface conditions.

Changing surface conditions will be monitored on a continual basis and updated via the Federal NOTAM System as necessary. Triggers that may change the surface conditions are:

- An active snow event
- Plowing, sanding, brooming, or chemical application
- Rising and falling temperatures
- Rapidly changing conditions

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Airport operations personnel are responsible for assessing runway conditions on a continual basis. As conditions change, more frequent runway and taxiway reports may have to be disseminated via the Federal NOTAM System, and relayed to Signature Flight Support and ATCT. Communication to both Signature and ATCT will be a phone call, or transmitted to Signature on Unicom Frequency 129.70 and ATCT on Tower Frequency 124.30.

5.6 Reportable Contaminants without Performance Data

Rubber on runway surfaces is considered a contaminant that is unable to be removed and poses no hazard. Sand is also considered a contaminant. Both of these contaminants will be reported via the Federal NOTAM System without a measured depth, and will not generate a RwyCC.

5.7 Slippery When Wet Runway

For runways where a friction survey indicates the average friction readings 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 Federal NOTAM System a RwyCC of '3' for the entire thirds of the runway when wet. A runway condition description of 'Slippery When Wet' will be used for this condition.

If it is determined by airport operations that a downgrade is necessary, all three runway thirds must match. Example: 3/3/3/, 2/2/2, 1/1/1.

The NOTAM will be canceled when the minimum runway friction level classification specified in AC 150/5320-12 has been met or exceeded.

5.8 Requirements for Runway Closures

When previous PIREPS have indicated GOOD or MEDIUM braking action, and two consecutive PIREPS are reported, this information should be taken as evidence that surface conditions may be deteriorating. If Airport Operations has not initiated its continuous monitoring procedures, an assessment will occur before the next operation. If Airport Operations is already continuously monitoring runway conditions, this assessment should occur as soon as traffic volume permits.

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Runways receiving a NIL braking either by a braking action report by Burke Lakefront Operations or PIREP, the runway will be determined unsafe for aircraft operations and will be immediately closed. The LOA with ATCT and the airport titled "Reporting of Braking Action and Unplanned Runway Closures" references braking reports and runway closures.

Burke Lakefront Airport will make every effort to maintain available airport surfaces in a safe operating condition at all times, and provide prompt notifications when areas normally available are less than satisfactorily cleared for safe aircraft operations. If a surface such as a runway, taxiway, apron becomes unsafe due to NIL braking or during an assessment, or other unsafe hazard or condition, the surface will be closed until the condition no longer exists, and is safe for operations.

Most commonly aircraft operators prefer runway conditions that are reported MEDIUM or GOOD conditions. It is the position of the airport to strive to maintain conditions MEDIUM or above.

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5.9 Continuous Monitoring

Continuous monitoring will occur when 2 PIREP's are reported simultaneously or when rapidly changing conditions warrant an operations agent to be taking friction measurement readings continuously. Once notification is made to take the necessary steps to improve the runway braking, the operations agent on duty will take several friction measurements as the runway is being plowed, broomed, sanded, or deiced to ensure the runway surface does not become NIL. The agent will make a decision to have additional applications of either sand or deicing materials applied until the friction measurement readings improve.

Conditions that might warrant continuous monitoring of pavement surfaces include but not limited to:

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

Airport Operations is staffed 24 hours, 7 days a week, 365 days a year. At no times will the airport not be monitored and surface conditions reported.

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