

Snow and Ice Control Plan

Carson City Airport (CXP)

Prepared by:

Rick Lee, Airport Operations and Maintenance
rlee@flycarsoncity.com
775-443-7288

And

Corey Jenkins, ACE, Airport Manager
cjenkins@flycarsoncity.com
775-841-2255

Original Date 11/17/2021
Revision Date _____

Table of Contents

Phase #1 Pre- and Post-Winter Season Topics		Page
Chapter 1. Pre-Season Actions		
1.1	Airport Preparation.....	4
	Airport Management Meetings.....	4
	Personnel Training.....	4
	Equipment Preparation.....	4
Chapter 2. Post Event/Season Actions		
2.1	Post Event.....	5
2.2	Post Season.....	5
Phase #2 Winter Storm Actions and Procedures		
Chapter 3. Snow Removal Action Criteria		
3.1	Activating Snow Removal Personnel.....	7
	Weather Forecasting.....	7
	Chain of Command.....	7
	Triggers for Initiating Snow Removal Operations.....	7
3.2	Personnel Responsible.....	8
3.3	Airfield Clearing Priorities.....	8
	Priority 1.....	8
	Priority 2.....	8
	Priority 3.....	8
	Priority 4.....	8
	Priority 5.....	8
3.4.	Snow Equipment List.....	8
3.5.	Storage of Snow and Ice Control Equipment.....	9
Chapter 4. Snow Clearing Operations and Ice Prevention		
4.1	Snow Clearing Principles.....	10
	Runway and Taxiways.....	10
	Ramp and Terminal.....	10
4.2	Surface Incident/Runway Incursion Mitigation Procedures.....	10
	Driver Fatigue.....	10
Chapter 5. Runway and Taxiway closures		
5.1	Requirements for Closures.....	11
5.2	Surface Conditions Not Being Monitored/Reported.....	11

Original Date 11/17/2021

Revision Date _____

Phase #1

Pre- and Post-Winter Season Topics

Original Date 11/17/2021

Revision Date _____

Chapter 1. Pre-Season Actions

1.1 Airport Preparation

a) Airport Management Meetings

The Airport Manager will typically initiate a meeting in October to discuss equipment status and material inventory, repair needs, staffing, budget, training, previous years issues, and any other topics associated with the Snow and Ice Control Plan.

b) Personnel Training

All airport personnel receive annual, recurrent snow removal training. Training records are maintained by the Airport Manager or Airport Operations and Maintenance Technician. Training will include the following:

- i) Familiarization with equipment operation
- ii) Familiarization with airfield clearing priorities

c) Equipment Preparation

60 days prior to snow season Airport Operations and Maintenance Technician will inspect and prepare each piece of snow removal equipment. Required fluids, replacement parts, and snow removal equipment components will be inventoried and stockpiled or ordered.

Original Date 11/17/2021

Revision Date _____

Chapter 2. Post-Event/Season Actions

2.1 Post Event.

After each snow event, airport management may host a meeting and invite Airport Authority Chair or designated representative to discuss any issues that have arisen from the event.

During the snow season, winter operations is included in the Airport Managers Report at the Airport Authority Board Meeting, which is held every third Wednesday of each month.

2.2 Post Season.

After each snow season an Airport Management meeting will be held, typically in April to review the snow season issues and recommendations for changes. The same topics as pre-season should be reviewed.

Provide actions for each department post season, i.e., Maintenance-inspect and repair equipment, Airport Management – update SICP.

Original Date 11/17/2021

Revision Date _____

Phase #2

Winter Storm Actions and Procedures

Original Date 11/17/2021

Revision Date _____

Chapter 3. Snow Removal Action Criteria

3.1 Activating Snow Removal Personnel.

The Airport Manager and Airport Operations and Maintenance Technician are responsible for determining when snow removal operations shall begin.

a) Weather Forecasting

- The Airport Operations and Maintenance Technician is responsible to monitor the current and/or forecast weather conditions during business hours. The Airport Manager is responsible on weekends.
- Recommended sources for monitoring weather
 - Airport Cameras
 - Airport AWOS
 - www.aviationweather.gov
 - www.noaa.gov

b) Chain of Command

- The Airport Operations and Maintenance Technician is responsible for monitoring the airfield during regular business hours.
- The Airport Manager is responsible on the weekends.
- The Airport Manager is responsible to initiate a Snow Alert Callout on the weekends.
- A Snow Alert Callout is executed by phone call.

c) Triggers for Initiating Snow Removal Operations

The runway condition will be checked continually for snow depth, slush, and braking during normal business hours. If there are forecasted conditions for snow accumulation over the weekend, the Airport Manager will monitor the cameras for any sign of accumulation and report to the airport to measure accumulation if a hazard is present. When snow depth reaches two inches a Notice to Airmen (NOTAM) and AWOS message will be issued, and snow removal will begin as soon as possible.

<u>Precipitation</u>	<u>Depth in Inches</u>
Slush	2
Wet Snow	2
Dry Snow	2

Original Date 11/17/2021

Revision Date _____

3.2 Personnel Responsible.

Both the Airport Manager and the Airport Operations and Maintenance Technician are responsible for snow removal operations as soon as possible.

3.3 Airfield Clearing Priorities.

The snow removal priorities have been developed to achieve an open and safe runway as quickly as possible.

- a) **Priority 1**
-Runway 09/27
- b) **Priority 2**
-Parallel Taxiways A and D to include the connector Taxiways at each end
-The midfield connector (A-3/D-3)
- c) **Priority 3**
-Remaining connector Taxiways (A-2, D-2, A-4)
-Taxiways B and C
-Airfield access from north-west ramp to Taxiway C
-Taxi lanes from hangars to taxiways.
- d) **Priority 4**
-South ramp apron
- e) **Priority 5**
-Perimeter vehicle access roads
-terminal parking lot

3.4 Snow Equipment List.

Equipment Type	Primary Area of Use
1984 Autocar 10-wheel dump truck with 11 ft. plow	Runway and Taxiways
2000 GMC 3500 flatbed truck with 9ft. plow	Taxiway intersections, taxi lanes, perimeter road, south ramp, parking lot
2019 Case tractor with 1yrd. bucket	Taxi lanes, south ramp

*As of November 2021

Original Date 11/17/2021
Revision Date _____

3.5 Storage of Snow and Ice Control Equipment.

Outside of the snow season, the equipment is stored at the maintenance yard. During the snow season, the equipment is stored near the Airport Operations office and is plugged into block heaters and battery chargers to maintain preparedness.

Chapter 4. Snow Clearing Operations

4.1 Snow Clearing Principals.

a) Runway and Taxiways

The 1984 Autocar 10-wheel dump truck with 11ft. plow is the primary equipment used for the Runways. All runways and taxiways are cleared by plowing from the center line working towards the pavement edge. The 2000 GMC 3500 flatbed truck with 9ft. plow is used to clear areas in turns or smaller sections missed by the larger plow. The minimum acceptable clearance is all the pavement up to the pavement edge.

b) Ramp and Terminal

All fixed base operators (FBO) and, or, leased premises will be responsible for snow removal on their ramp areas. The Airport must ensure access to the leased areas and make an effort to minimize the berms that would negatively impact airport access.

4.2 Surface Incident/Runway Incursion Mitigation Procedures.

To reduce the possibility of a Surface Incident/Runway Incursion, all pavement areas actively undergoing snow clearing operations will be closed. A NOTAM will be issued and the recording on the AWOS will be updated.

All snow removal vehicles operating on any aircraft movement area will be equipped with an amber beacon and two-way VHF radio, which must be always monitored by the vehicle operator.

No ground vehicle will operate beyond the existing ramp areas without first being cleared by the Airport Manager.

a) Driver Fatigue

Snow removal operations can last extremely long hours. To avoid Driver Fatigue and ensure a safe operating environment, everyone operating snow removal equipment will be allowed a 15-minute break in the morning, a 1-hour lunch break, and a 15-minute break in the afternoon. Total driving hours will not exceed 10 hours in a single workday.

Original Date 11/17/2021

Revision Date _____

Chapter 5. Runway and Taxiway Closures

5.1 Requirements for Closures.

Runways receiving a NIL braking (either pilot reported or by assessment by the airport) are unsafe for aircraft operations and will be closed immediately when this unsafe condition exists.

Runways and Taxiways will be closed if snow depth exceeds two inches. A NOTAM and AWOS message will be issued.

The airport will open for operations when priority areas 1-3 have been cleared.

5.2 Surface Conditions Not Being Monitored/Reported

Runway and Taxiway conditions are not monitored after dark.

Original Date 11/17/2021

Revision Date _____

Chapter 6. Definitions

Compacted Snow.

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

Note: A layer of compacted snow over ice must be reported as compacted snow only.

Example: When operating on the surface, significant rutting or compaction will not occur. Compacted snow may include a mixture of snow and embedded ice; if it is more ice than compacted snow, then it should be reported as either ice or wet ice, as applicable.

Contaminant.

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

Dry (Pavement).

Describes a surface that is neither wet nor contaminated.

Dry Snow.

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

Frost.

Frost consists of ice crystals formed from 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.

Note: Heavy frost that has noticeable depth may have friction qualities similar to ice and downgrading the runway condition code accordingly should be considered. If driving a vehicle over the frost does not result in tire tracks down to bare pavement, the frost should be considered to have sufficient depth to consider a downgrade of the runway condition code.

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.

Original Date 11/17/2021

Revision Date _____

Mud.

Wet, sticky, soft earth material.

Oil.

A viscous liquid, derived from petroleum or synthetic material, especially for use as a fuel or lubricant.

Sand.

A sedimentary material, finer than a granule and coarser than silt.

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.

See individual definitions for each contaminant.

Water.

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

Wet Ice.

Ice that is melting, or ice with a layer of water (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.