

# Action Plan Updates

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## Overview

In early 2023, we conducted a thorough internal review, working with our Board of Directors, and engaged respected aviation consultancy Oliver Wyman for a third-party assessment. The root causes and lessons learned put in motion many efforts to better prepare Southwest for extreme weather events as we move forward.

To mitigate the risk of future disruptions, we are investing in additional capabilities across the airline. Our actions address everything from ground equipment to the volume of aircraft deicing we can accomplish in the harshest conditions. We have improved communication and alignment across multiple operational workgroups during disruptions, including strengthening our interconnected scheduling and operations systems so they function effectively in extreme circumstances. And we have made organizational changes to improve coordination among key divisions of the airline. Finally, we've reprioritized and increased investment in technology. In fact, we budgeted \$1.3 billion for technology projects in 2023, approximately 25% higher than our spend in 2019.

We hope these actions bring our Customers and our People trust and confidence in our approach to eliminate a repeat event. Southwest is a Company with more than five decades of success built around operational reliability, high-quality Customer Service, and legendary Hospitality—with our Customers, Employees, and the communities we serve.

## Review Process and Key Findings

Soon after the event, internal working Teams undertook a department-by-department review of procedures, tools, processes, and playbooks. Our internal review and the Oliver Wyman assessment were used to determine the key root causes of the event, lessons learned, and an action plan for the airline to follow.

## Key Root Causes

- **Winter Operations:** We had insufficient winter infrastructure and equipment in key airport locations and faced staffing challenges from the need to rotate Employees outside in bitter winter weather conditions. These issues hindered our ability to keep our Flight Crew networks flowing from key Crew bases.
- **Cancellation Waves:** The pace and volume of close-in cancellations forced our aircraft and Crew Scheduling teams to rely on time-consuming manual processes that could not keep pace with the volume of individual scheduling issues.
- **Cross-Team Collaboration:** Compartmentalized communications and gaps in our process between important operational workgroups resulted in bottlenecks.

## Action Plan



### Improve Winter Operations (Infrastructure, equipment and winter preparedness)

In cities where severe weather can inhibit our operations and aircraft throughput, we have made critical equipment and infrastructure available in ample supply.

- **Additional Deicing Trucks and Deicing Pads**
  - Purchased additional trucks and added enclosed-cab trucks to use in extreme weather conditions
  - Secured additional deicing pads in key locations like Denver and Chicago (Midway) to increase the volume of aircraft that can be deiced at any given time
- **Deicing Fluid Reserves**
  - Conducted inventory of existing deicing fluid (glycol) capacity
  - Increased glycol storage capacity by nearly 400,000 gallons at key airports to have sufficient levels of fluid available to support long-duration and back-to-back winter events

- **Ground Equipment Assessment**
  - o Purchased additional fuel support equipment for key Stations where access to fuel may be limited in severe winter weather, including a diesel nurse truck in Denver, compressed natural gas rescue rigs in Denver, and diesel fuel testing equipment in Denver, Chicago (Midway), and Baltimore
  - o Evaluated ramp cleaning procedures to keep surfaces free of precipitation to the maximum extent possible
- **New Weather Application**
  - o Implemented SureWx liquid water equivalent system to better gauge dynamic local weather conditions and provide more precise information for Pilots and Dispatchers to know how much time an aircraft has to depart based on the efficacy of anti-icing fluids in winter conditions
- **More Engine Inlet Plugs and Heaters**
  - o Ordered more than 350 engine inlet plugs to protect engines and fan blades from icing and extreme temperatures, along with 16 new field-use, high-output portable heaters to deter equipment from freezing in low overnight temperatures
- **Winter Staffing Level Checks**
  - o While we were fully staffed during December's disruption, we have reassessed our winter staffing model to augment additional personnel at airports where deicing and rotating Ground Operations Employees are regular, seasonal occurrences due to extreme cold
  - o As of October 1, we've hired approximately 12,800 new Employees in 2023, and more than 60 Crew Schedulers to support our Crew Members around the clock



## Enhancing Cross-Team Collaboration *(Processes, decisions and communication)*

As the disruption evolved from winter storm management into an operational crisis, objective criteria to escalate our response emerged as a need for Southwest.

- **Network Planning and Network Operational Control (NOC) Organizational Alignment**
  - o Implemented organizational changes to align Network Planning (the function that plans the flight/route network) with Network Operations Control (the function responsible for executing the daily schedule/operation) under the same Senior Leader for increased operational efficiency
- **Alerting and Decision-Support Tools Refresh**
  - o After the disruption, we took immediate steps to build enhanced real-time dashboards to help Teams evaluate operational impacts and determine when to escalate a situation with objective escalation criteria
  - o Introducing a formalized Winter Ops Playbook for Leaders to document enhanced alerting capabilities, escalation procedures, and established lines of communication among operating groups to support collaborative solutions that take into consideration impacts across workgroups
- **Aircraft and Crew Recovery Coordination**
  - o Created a common escalation language for alignment on throughput capacity at airport locations being affected by extreme weather
  - o Streamlined how Crew Members communicate with Crew Scheduling and published guidelines for how they will be supported in extreme circumstances



## Accelerating Other Operational Investments *(Technology and tools for greater volume and pace)*

Additional enhancements are planned based on Southwest's assessments.

- **Crew Optimization Software Upgrade**
  - o Implemented several upgrades to Crew Scheduling systems with more capabilities to manage irregular operations
  - o Implementing a new optimization tool that will provide the ability to reset the Crew and aircraft network simultaneously, which can be leveraged during Winter Ops scenarios when Station reductions and closures are needed
- **Crew Notification Enhancements**
  - o Enhanced electronic Crew notification and acknowledgement system and upgraded Crew phone system
- **Customer Support & Services Phone System Stability**
  - o Upgraded Customer communication tools and phone system capacity
- **System Recovery Function Enhancements**
  - o Strengthened alignment between recovery tools to improve efficiency of implementing solutions during extreme weather events

## Action Plans: Improving Winter Operations

Updated as of October 24, 2023

	Completed	On track for Winter 2023
Deicing Trucks and Deicing Pads Increase	✓	
Deicing Fluid Reserves Assessment	✓	
Ground Equipment Assessment	✓	
New Weather Application	✓	
More Engine Covers and Heaters	✓	
Winter Staffing Level Checks	✓	

## Enhancing Cross-Team Collaboration

	Completed	On track for Winter 2023
Network Planning and Network Operational Control (NOC) Organizational Alignment	✓	
Alerting and Decision-Support Tools Refresh	✓	
Aircraft and Crew Recovery Coordination	✓	

## Accelerating Operational Investments

	Completed	On track for Winter 2023
Crew Optimization Software Upgrade	✓	
Crew Notification Enhancements	✓	
Customer Support & Services Phone System Stability	✓	
System Recovery Function Enhancements	✓	