

Extreme Winter Weather:

December 18th to 20th at YVR



Paul Shore
Waylon Godden
Stewart McIntosh

SWIFT
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December 18th -20th

- Severe and varied winter weather
- Snow, freezing rain, thundersnow, and fog
- Extended period of cold weather
- Arrival and Departure Imbalances
- Three waves of snow:
 - December 18th (6 cm)
 - December 19th -20th (28 cm)
 - December 23rd (8cm)



December 18 Challenges

Forecast:

- Minor event
- Snow overnight tapering off mid morning
- Total accumulation 3-5cm
- Departure Management Plan received significant pushback

Actual Event:

- Thundersnow at morning startup
- Demand reductions were not as planned

December 18th Result:



1019LT



1033LT



1039LT



December 19th -20th

Forecast:

- Snow at 2200LT 5-10cm

Actual Event:

- Light Snow at 1530
- New Forecast has trace by 1900
- Total increase to 10-15cm
- Vis down to 1/4SM

1945 Holdover Time Impacts:

- Visibility at 3/4SM
- Impact to departures
- Visibility 1SM or less until 0730



December 20th Daytime Operations

SWIFT

- Total accumulation 28cm
- Regional transportation impacts led to staff shortages across the airport
- Limited towing capability
- Departure rate impacted by significant contamination



Aircraft Deicing

- Safety was everyone's top priority
- Staffing was unaffected by the weather. We were fully staffed throughout
- The majority of the fleet remained in service running non-stop 24/7
- Communication between stakeholders was timely



Aircraft Deicing

- Numerous periods of severe weather resulted in, Aircraft not being able to safely depart after being Deiced (HOT)
- Sleet followed by heavy snow and a rapid drop in temperature resulted in 2" of ice and snow adhering to all Aircraft Surfaces.
- An average Winters worth of Aircraft Deicing Fluid was applied in 5 days
- On occasion, over 50,000 Litres of fluid was applied to a single aircraft.



Snow Removal Challenges



Wet Snow

- Dense - weight was limiting factor for blowers and melters
- Sticky - to chutes, buckets, even melter
- Readily compacts - when temperature drops

Total number of People: ~ 100 contractors on aprons, ~18 staff airfield

- Arrived – some late due to Vancouver road/transportation network impacted by storm
- Current plan wasn't sufficient to address the aprons in these extreme conditions
- Experience – takes longer to gain in Vancouver

Experience



Experienced people

- Know how to work around the gaps in the plan

Newly onboarded people

- Where it's not explicit, have questions and ideas

Span of Control

- Highlighted some imbalance

Role Clarity

- Complexity of regional impacts made logistics difficult without specialized staff on site
- Aircraft Flow became a problem
- Need to be explicit and detailed for specialized roles

Predictability for Customers – plan gaps for an extreme storm

- Event Levels not defined which did not support good expectation management
- Service Level for aprons
- Priority 1-3 defined for entire surfaces – requires review for more extreme conditions

Equipment Challenges



Compact Snow on the Apron

- Sweeping and KA on the apron

Timing

- Anti-ice as the rain is switching to snow
- Stand sweeping not-too-soon before arrival

End