

WPR22LA251

OPERATIONAL FACTORS

Attachment 11

NASA ASRS Reports previous 20 years

March 15, 2023

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Cessna 208 Windshear Results

ACN: 584912

Time / Day

Date : 200306

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : PIT.Airport

State Reference : PA

Relative Position.Distance.Nautical Miles : 0

Altitude.AGL.Single Value : 0

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Windshear

Light : Night

Aircraft

Reference : X

ATC / Advisory.Tower : PIT.Tower

Aircraft Operator : Air Taxi

Make Model Name : Caravan 208A

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Cargo / Freight / Delivery

Flight Phase : Landing

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Reporter Organization : Air Taxi

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 6000

Experience.Flight Crew.Last 90 Days : 120

Experience.Flight Crew.Type : 2500

ASRS Report Number.Accession Number : 584912

Person : 2

Reference : 2
Location Of Person.Facility : PIT.Tower
Reporter Organization : Government
Function.Air Traffic Control : Local

Events

Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Automation : Air Traffic Control
Detector.Person : Air Traffic Control
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Weather
Contributing Factors / Situations : Human Factors
Primary Problem : Ambiguous

Narrative: 1

THERE WAS A TSTM ON THE W SIDE OF PIT. I WAS APCHING FROM THE E. GOT CLRED FOR THE VISUAL RWY 28R AND CLRED TO LAND RWY 28R. JUST AS I TOUCHED DOWN ON THE MAINS, THE TWR SAID THERE WAS A WINDSHEAR WARNING OR ALERT AND TOLD ME TO GO AROUND. I TOLD THE TWR I HAD JUST TOUCHED DOWN, AND WASN'T GOING TO GO AROUND, AS THAT WOULD PUT ME INTO THE WINDSHEAR AND TSTM WHICH WAS APCHING ON THE W SIDE OF THE FIELD. I DON'T KNOW WHY THE TWR DIDN'T SEE I HAD JUST LANDED (IT WAS DARK) OR MAYBE THEIR HORN FOR WINDSHEAR WENT OFF, AND THEY JUST TOLD ME TO GO AROUND AUTOMATICALLY! WHEN I TOLD THE TWR I WASN'T GOING AROUND, THEY DIDN'T SEEM TO HAVE A PROB WITH IT. I DON'T THINK I WOULD DO ANYTHING DIFFERENT IN THE FUTURE, AS I THINK I DID THE SAFEST THING, BUT IN THE FUTURE, I WILL TRY TO AVOID A SIT LIKE THIS ALTOGETHER, AND GIVE TSTMS A WIDER BERTH WHEN I AM LNDG.

Synopsis

A C208 PLT IS TOLD TO GO AROUND BY PIT TWR DUE TO WINDSHEAR AFTER THE ACFT HAD ALREADY TOUCHED DOWN.

Salt Lake City Windshear Results

ACN: 1746003

Time / Day

Date : 202006
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : SLC.Tower
State Reference : UT
Altitude.AGL.Single Value : 200

Environment

Weather Elements / Visibility : Windshear
Light : Dusk

Aircraft

Reference : X
ATC / Advisory.Tower : SLC
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Landing
Route In Use : Visual Approach
Airspace.Class B : SLC

Person

Reference : 1
Location Of Person.Facility : SLC.Tower
Reporter Organization : Government
Function.Air Traffic Control : Flight Data / Clearance Delivery
Function.Air Traffic Control : Local
Function.Air Traffic Control : Ground
Qualification.Air Traffic Control : Fully Certified
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 9
ASRS Report Number.Accession Number : 1746003
Human Factors : Confusion
Human Factors : Situational Awareness
Human Factors : Workload
Human Factors : Distraction

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Executed Go Around / Missed Approach

Assessments

Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Aircraft X went around short final due to wind shear two times. Both were from the weather and created a potentially dangerous situation with the departure traffic at the time. At the time, I was combined with LCW/GCW/GCE/CD. There were several aircraft calling in on different frequencies and I was scanning both sides of the airport to verify compliance. On the east side, there is construction that is making every aircraft taxing a complex situation. When the aircraft went around the first time, I was talking to an east side aircraft so I was totally distracted. The facility had a runway incursion just last week over there so it is a point of focus and cannot be ignored. Even with busy traffic at the time.

Regional management has dictated how we are to divide the positions very specifically with the reduced staffing. The problem is that the CIC cannot adjust to the real time situations because we are being told specifically how to split positions from individuals outside the facility that don't understand our traffic. There has been zero input from the people actually working the positions on this. In this case, all the locals should have been combined and ground and clearance should have been combined. We should not have to be dealing with go-arounds on one side of the cab and complex taxiway/runway configurations on the other. Their knee-jerk reactions have created an unsafe environment because we can't work the traffic in a safe manner. Every Controller and Supervisor I have talked to has said this is not safe. We are all willing to have a conversation on how to improve workload in the Tower. But there has been no conversation. Just dictates from a bureaucracy that doesn't understand our operation. Collaboration is not telling us your decision after it has already been made.

Synopsis

SLC Tower Controller reported an aircraft went around twice due to windshear and also reported that the way the Tower cab positions are split up are not flexible and not safe.

ACN: 1523724

Time / Day

Date : 201803

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : SLC.Airport

State Reference : UT

Altitude.MSL.Single Value : 8000

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Windshear

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.TRACON : S56

Aircraft Operator : Air Carrier

Make Model Name : Medium Large Transport, Low Wing, 2 Turbojet Eng

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : GPS

Nav In Use : FMS Or FMC

Flight Phase : Initial Approach

Flight Phase : Descent

Route In Use : Vectors

Route In Use.STAR : LEEHY FIVE

Airspace.Class B : SLC

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Type : 621

ASRS Report Number.Accession Number : 1523724

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Dispatch

Person : 2

Reference : 2
Location Of Person : Company
Reporter Organization : Air Carrier
Function.Dispatch : Dispatcher
Qualification.Dispatch : Dispatcher
ASRS Report Number.Accession Number : 1523076
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Dispatch
Communication Breakdown.Party2 : Flight Crew

Person : 3

Reference : 3
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 3341
Experience.Flight Crew.Type : 2781
ASRS Report Number.Accession Number : 1523238
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Dispatch

Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
Detector.Person : Dispatch
When Detected : In-flight
Result.Flight Crew : Diverted

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

We were dispatched with 25.0 PLAN GATE, no destination alternate and remaining fuel 6991 using a Cost Index (CI) of 29. Destination forecast for vicinity showers, scattered 3,000 feet, and broken 7,000 feet. The flight plan included the LEEHY5 arrival to go past the airport on the west side to land southbound. We discussed that a wind change to northerly runways in the forecast would tend to increase our remaining fuel since we were arriving from the southeast.

We departed with 25.0 fuel due to a maintenance request report found during pilot preflight of exterior of aircraft. Takeoff with 24.7 fuel that matched flight plan. After takeoff, the First Officer (FO) and I discussed a CI increase per policy to improve arrival time. We agreed that the increased CI would cost significant fuel but only improve the

arrival time by 5 minutes. We agreed that CI 29 was prudent in that 38 minutes late versus 43 minutes late was imperceptible, the flight receiving the aircraft could still achieve [a no delay], and the increased fuel burn would result in an imprudent lower remaining fuel. During flight, we flew the flight plan as published and monitored fuel and winds against the flight plan. There were no significant deviations. Periodic PIREPs were sent via ACARS MISC REPORTS. Periodic ATIS checks continued to show southerly winds with gusts consistent with the forecasts.

Prior to descent, we discussed the wind being strong and gusty but right down the runway for 16. We discussed the windshear advisories and how mini-GS and Autothrust would be appropriate. We discussed that we would listen for reports from aircraft in front of us and adjust accordingly. Our fuel was tracking as expected, but we agreed that if windshear started to cause missed approaches, we would not have time to loiter. We didn't verbalize a specific plan at this point...most likely due to the workload with the arrival and the turbulence. We were busy on arrival with light to moderate chop and turbulence below FL195. We both remarked that south of SLC was better weather than the north based on observation. Having just reviewed the airport database the night before concerning authorized airports, I was aware that we had no authorized airports in the vicinity of SLC for diversion; however, there were runways available south of SLC. I didn't verbalize this to the FO during the arrival and vectors for the approach.

We were vectored from the arrival and told to intercept the 16R localizer at 8,000 ft. An aircraft ahead of us reported losses and gains of airspeed on final but none outside limits. Shortly thereafter, we were told to track the 16R localizer inbound but to maintain 8,000 feet because they were changing the airport around. We then received vectors off of the localizer and incremental climbs to 12,000 feet. At this point, we told ATC "min fuel advisory." ACARS to dispatch was sent. They acknowledged and told us that they'd, "...get us right in." We were on a south-southeast heading descending to 10,000 southwest of the airport and I reported the airport in sight at our 8 o'clock to the approach controller with the hope of expedited vectors. Mentally, I was beginning to be concerned as to the decreasing probability of an assured landing at SLC due to the combination of previous aircraft reports, gusty wind conditions, and shifting wind directions.

Committing to a visual approach to SLC with lower than desired fuel followed by a go-around and more vectors to the north in poorer weather conditions would result in an undesired critical fuel state. We then received a right turn to continue to the south with a simultaneous report of an aircraft going around at SLC. At this point, I identified to ATC [priority] and requested a diversion to the south. ACARS to Dispatch was sent. I knew both the fuel state and the need to land at an unauthorized field would require [assistance]. Though we had 4,800 lbs. fuel on board (FOB), my personal limit to cross a threshold at my final destination/alternate/diversion field is 4,300 FOB providing I have a high landing probability and can accomplish a VFR go-around to a tight pattern at that airport. The fuel is appropriately higher with corresponding lesser conditions. I knew there were two airports in visual conditions with good runways to the south. We happened to have a pilot jump seater in the flight deck that lived in SLC. As I asked ATC about the airports to the south, the jump seater was familiar with PVU and had Jeppesen coverage. We chose PVU, sent ACARS to Dispatch, and got cleared directly to a visual approach. ATC and weather confirmed VMC and good winds at PVU. We landed safely in PVU and taxied to the local FBO. We were NOCOMM on ACARS on the ground in PVU. We conducted all necessary communications for Dispatch, Maintenance Control, fueling, etc. over personal mobile phone. Without my phone, we would have had a lot of difficulty.

Weather didn't develop as forecast. Our position in the sequence of aircraft in relation to

the weather/wind changes and the turning around of the airport was probably the absolute worst possible. Earlier would have allowed us to land south or go-around with a direct to Provo with higher FOB. Later may have allowed us to vector directly into a northerly landing and avoid the long vector to the north for the southerly approach and then back to the south for the northerly approach.

Narrative: 2

Took over for the flight to SLC. New forecast came in for SLC; sent to crew. New TAF did not warrant an [alternate] so flight continued. Flight was on approach to land south, [when] flights ahead started to go missed due to windshear. At this point, the flight was below 10,000 ft in sterile. Crew sent a message SLC switching to land south. (During this time, crew informed me after they were on the ground [and] that SLC did not let them descend below 8,000 ft.) Flight was then being giving radar vectors to land to the north on the 34s.

At this point in time, crew said they were declaring minimum fuel. I said copy, and then let the ATC coordinator and supervisor know of the issue. (ATC coordinator didn't have any info on SLC at that time.) Shortly after, crew said identifying as a [priority for] fuel. I again let the ATC coordinator and the supervisor know. At this time, I did not see that other flights were still going around. Crew then asked for weather for PVU. Due to the time where they were and altitude, I looked up as said NOTAMs good and Weather good and sent the TAF.

Due to the crew being very busy, I did not have a lot of information and was trying to help them out the best I could with very little information. (No fault to them, they were very busy at that time to even send a message). I didn't hear back from them right away and also asked if they could make it to Hill AFB (KHIF) but didn't get a reply. HIF had light snow in forecast and no Field Conditions [reported], not to mention they also had windshear. I called the supervisor to try and get numbers for PVU because it was not authorized and he gave me the tower number. By the time, I called PVU tower flight was on the ground at PVU. Due to crew workload, crew was not able to respond. After I talked with the Captain on the ground, he told me that after he notified ATC of [priority for] fuel, SLC approach said they would get him in however, there were still flights going missed due to windshear. It was at this point the crew made the decision to divert.

Over all due to the sudden with change and windshear at SLC along with flight being below 10,000 feet, it was necessary to divert to PVU. The weather at PVU was VFR winds were right down the runway and no windshear. Even though PVU has no ACARS, reception was able to get paperwork to crew with no problem.

Narrative: 3

[Report narrative contained no additional information.]

Synopsis

Air carrier's flight crew, and a Dispatcher, reported a diversion to an unauthorized field due to fuel constraints and windshear at their planned destination.

ACN: 1426758

Time / Day

Date : 201702

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : SLC.Airport

State Reference : UT

Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Icing

Weather Elements / Visibility : Snow

Weather Elements / Visibility : Turbulence

Weather Elements / Visibility : Windshear

Light : Night

Aircraft

Reference : X

ATC / Advisory.TRACON : S56

Aircraft Operator : Personal

Make Model Name : Small Transport, Low Wing, 2 Turboprop Eng

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Personal

Nav In Use.Localizer/Glideslope/ILS : Runway 34L

Flight Phase : Initial Approach

Route In Use : Vectors

Airspace.Class B : SLC

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 3200

Experience.Flight Crew.Last 90 Days : 20

Experience.Flight Crew.Type : 600

ASRS Report Number.Accession Number : 1426758

Human Factors : Other / Unknown

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation / Discrepancy - Procedural : Clearance

Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Aircraft Terrain Warning
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Had lined up for the ILS 3 at OGD, but at glideslope intercept weather had dropped to 1/4 miles and 400 ft ceilings. Broke off approach and was vectored to the west to see if weather would move through. That didn't occur so we requested an approach to land SLC and were vectored to SLC ILS 34L. Approximately 10 miles downwind in solid IMC, autopilot and altitude hold on and about to turn base we hit a downdraft that dropped us approximately 2000 feet. Horizon ball was all brown, autopilot and altitude were ineffective, the loss of control set off the master warning system due to lack of fuel (at the time we had 750 lbs per side), and the terrain warning went off. Recovery was accomplished, but with a 2000 foot gain (assigned altitude 10000 at the floor of incident approximately 8000 at the ceiling of incident approximately 12000). I was then routed back to the west and north on vectors for sequencing back to the ILS 34L SLC that was shot with a side step on final in VFR conditions to RWY 34R. During taxi in I was instructed to contact SLC TRACON by phone, which I did and he asked what had occurred and I relayed a shorter version with not as many facts. He was very polite, professional, and understanding.

Synopsis

Light twin pilot reported encountering severe turbulence and windshear on downwind for the SLC ILS Runway 34L at 10000 feet in IMC. 2000 feet was lost and a terrain warning was received along with a master warning for fuel pressure before control was regained.

ACN: 1409778

Time / Day

Date : 201612

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : SLC.Airport

State Reference : UT

Altitude.MSL.Single Value : 7000

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Thunderstorm

Weather Elements / Visibility : Windshear

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Tower : SLC

Aircraft Operator : Air Carrier

Make Model Name : Large Transport

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Nav In Use.Localizer/Glideslope/ILS : Runway 34L

Flight Phase : Final Approach

Airspace.Class B : SLC

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Total : 14656

Experience.Flight Crew.Last 90 Days : 150

Experience.Flight Crew.Type : 12153

ASRS Report Number.Accession Number : 1409778

Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 2047
Experience.Flight Crew.Last 90 Days : 25
Experience.Flight Crew.Type : 581
ASRS Report Number.Accession Number : 1409790

Events

Anomaly.Deviation - Speed : All Types
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Executed Go Around / Missed Approach

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Encountered wind shear on ILS approach SLC runway 34L. Sudden increase of 40 knots resulting in a flap over speed. Configuration was gear down, flaps 3 landing. Wind before the encounter was 190/37. Was having trouble stabilizing speed with the tailwind and was expecting the wind shift to a crosswind for landing. Gust front hit and airspeed immediately increased 40 knots, exceeding flap speed. Executed a go-around for wind shear. No thunderstorm in the forecast.

Narrative: 2

On ILS approach to 34L at SLC, inside FAF the aircraft encountered wind shear resulting in a momentary flap over speed. Winds on the approach outside the FAF were sustained at approximately 190 at 40 knots. At the FAF, we switched to tower frequency, received clearance to land and then entered an area of precipitation. The aircraft was fully configured for the landing with Flaps 3 due to high winds on the ground, reported at 330/30G40. Once we entered the area of precipitation, the winds immediately sheared from 190/40 to 290/38 and we encountered moderate turbulence. The captain, who was Pilot Flying immediately executed a go-around and we cleaned up the aircraft. Once the weather moved past the airport, we came back around to the same runway and landed uneventfully. The momentary over speed was written up and a maintenance inspection was accomplished. The aircraft was returned to service with no repairs required.

Synopsis

Air carrier flight crew reported executing a go-around after encountering wind shear on approach to SLC that resulted in a flap over speed.

ACN: 1387450

Time / Day

Date : 201609

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : SLC.Airport

State Reference : UT

Altitude.MSL.Single Value : 7500

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Rain

Weather Elements / Visibility : Thunderstorm

Weather Elements / Visibility : Turbulence

Weather Elements / Visibility : Windshear

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.TRACON : S56

Aircraft Operator : Air Carrier

Make Model Name : EMB ERJ 170/175 ER/LR

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Final Approach

Flight Phase : Initial Approach

Airspace.Class B : SLC

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Total : 3400

Experience.Flight Crew.Type : 750

ASRS Report Number.Accession Number : 1387450

Human Factors : Workload

Events

Anomaly.Deviation - Speed : All Types

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Unstabilized Approach

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Flight Crew : Diverted

Assessments

Contributing Factors / Situations : Company Policy
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

We departed ZZZ with good weather forecasted for SLC with no alternate needed. We were planned with 600 lbs taxi fuel and :23 (1471lbs) contingency fuel. The flight was uneventful until we began the descent to SLC. We were being vectored north around the airport to get around a storm that was over the airport. As we broke out north of the airport, I looked down and saw it raining on the east side with more storms east of the airport. We were on downwind vectors for 16L and had just been cleared for the approach when ATC said aircraft were reporting a loss of 20 KIAS on final and were going around. I told the FO to tell them we will be discontinuing the approach and would like to hold for a bit. We were still doing alright on fuel then and had 3800lbs on board. I figured we had 10-15 minutes before we had to do an approach to SLC or divert. The PPOS Direct page in the FMS also looked good at that point so I was focused on whether or not we could hold long enough to get into SLC. ATC said the storm was passing at SLC and the winds were 16 kts and steady with no Low Level Windshear alerts. They asked if we would like to do an approach and we decided to give it a shot. The FO and I decided that we would try a single approach and if we go missed to go to ZZZ1. We setup for the approach, intercepted final, and started configuring flaps. ATC advised heavy precipitation between us and the runway. Given the weather on the field we decided to give it one try.

We were on the glideslope at 190 KIAS with flaps 2 passing through 7500 MSL when it seems we might have encountered a microburst. I don't know if that's what it was, but within 5 seconds our indicated airspeed rapidly increased to 234 KIAS and stayed there. I would have normally broken off the approach immediately, but we were high enough off the ground that I could get stable by 1000 AGL and I also expected the speed increase to immediately subside. We were both caught completely off guard when the airspeed didn't go back to normal, but actually kept increasing. At that point, I told ATC that we were going missed and going to ZZZ1 as I disconnected AP/AT and turned out to the right and started climbing. At this point it was easier for me as CA to work the radios rather than my FO (PF). I was then verbally requesting mode changes to match what I was flying and requested AP/AT back on to lighten the workload. Even though there was a flap overspeed, I elected to call for flaps to be retracted due to our fuel status and not knowing if there would be a delay getting into ZZZ1 with other aircraft being diverted there. I felt it would be less risky to retract the flaps than continue flying with flaps at 2 and burning extra fuel.

We then told ATC we were diverting and got setup and briefed for it. I had my FO type a message to dispatch that we were diverting and the FOB. I called FAs and made a quick PA to passengers. We landed in ZZZ1 uneventfully and I left the flaps at landing configuration until Maintenance could look at them in case they were damaged. If you go through the replay interval by interval you can see our ground speed significantly decrease almost 20 kts from one interval to the next. A 200 ft climb occurred at the same time. I'm

sure quality assurance data will show more detail, but it shows that we had a sudden increase in headwinds.

Synopsis

EMB-175 Captain reported diverting after encountering a microburst while on approach to SLC.