

Date: Wednesday, December 23, 2020

Flight: UA 1481

From: KSNA

To: KIAH

Departure time: 1354Z

Arrival time: 1838Z

First Officer David Honda's summary of UA 1481.

During the initial preflight planning, areas of potential environmental "threats" were addressed for all phases of flight from departure to destination in accordance with UAL SOP. We anticipated some possible bumps on climbing out of SNA and en route; as the flight plan remarks forecasted "LGT-OCNL MDT TURB FL320-380." Destination Forecast at our arrival time was for broken layers, windy and light rain showers. The flight commenced with a normal departure from SNA, with eventual climb to FL370. Environmental flight conditions were relatively smooth; the seatbelt sign was on during short areas of intermittent light turbulence. The majority of the flight was conducted in VMC conditions on top of the clouds. Skypath, WSI-RPM turbulence, FPGs areas and WX radar were used as needed during the flight. We descended early to FL310 to avoid any potential areas of turbulence as shown in the FPGs for the central Texas area.

Prior to descent, ATC changed the "MSCOT 4 arrival" to the "DRLLR 5 arrival". The arrival briefing and descent checklist were completed per UAL SOP. ATIS showed gusty winds, broken layers, and towering cumulus in the vicinity of the station. We were eventually routed direct "MPORT" and RWY26L transition. As we descended, we continued to assess the ride and could see cumulus clouds off in the distance. We planned to seat the passengers early and the Captain informed the flight attendants.

I had a bathroom break and—upon returning back to the flight deck—we re-verified arrival altitude assigned for the clearance to descend on the "DRLLR 5 RWY 26L" of 7000. The seatbelt sign was subsequently turned on and the passenger "PA" was addressed, advising the passengers to stay seated for the remainder of the flight.

Approximately at 12000, the cabin was "double chimed" and flight attendants were instructed, via the PA, to "take their jump seats" shortly thereafter prior to entering any areas of turbulence. Both myself and the captain audibly heard the purser take her jump seat and buckle herself in.

Initially on the arrival, the autopilot was disconnected and we steered momentarily slightly left, for avoidance of an isolated cumulus. Autopilot was subsequently re-engaged, and the arrival process continued. South and near the "DOMNO" waypoint, there were more pronounced scattered cumulus clouds. Passing "DOMNO" light- turbulence was encountered as we descended to 5000ft, per ATC clearance.

Once clear of the cloud bases, turbulence was negligible and with a couple of ATC vectors, we intercepted the 26L localizer inside GRIEG and prior to KERNS.

Prior to KERNS, the purser contacted the flight deck via the cabin interphone, stating that there was an injury in the cabin, and she proceeded to inform me that medical assistance would be needed. I attempted to contact operations, albeit unsuccessfully and requested the tower have medical assistance sent to gate C2.

Landing was uneventful and we taxied via NG to the ramp and gate C2. The aircraft was secured and appropriate checklists accomplished. Paramedics attended to F/A Kim Carmona. The flight attendant informed the Captain she was having mild back pains.

Statement Regarding UA1481, SNA-IAH on 12/23/2020.

Submitted by: Captain Varoujan Kranian

Our preflight planning and discussion usually occurs on the Flight Deck at KSNA shortly after the arrival of both crew members. After First Officer Honda settled into his seat, we briefly chatted about flight time, fuel load, and weather, both enroute and destination. I always look at the destination forecast and utilize WSI and Skypath to get an overall picture of the flight. On this morning the forecast for KIAH showed partly cloudy conditions with some mildly gusty winds from the southwest. Our flight planned arrival time was 1902Z. Due to tailwinds, our actual arrival time was about 1830Z. The KIAH 1800Z forecast was: 210/12G17 6SM -SHRA BKN025 BKN040. The 2100Z forecast showed VCTS after our arrival time. No major threats existed for our arrival period into KIAH. I briefed the Flight Attendants on the KIAH weather but did not feel the need to brief anything about turbulence on the arrival. I did mention there might be some enroute turbulence near the half-way point as per RPM and FPG on WSI, and Dispatcher remarks on the FP, and also the possibility of some light turbulence in the low teens on the climb-out from KSNA. I did tell the Flight Attendants that while they did not need to remain seated, I would use the PA command "Flight Attendants take your jump seats" should it become necessary.

The first half of the flight was fairly smooth and uneventful. I utilize WSI and Skypath copiously and knew that we may encounter some turbulence in a FPG area over West Texas. We turned on the seat belt sign and began querying ATC for the smoothest rides. We were told FL310 and below were best and descended to FL310 where it smoothed out. I sent a message to Dispatch to inform them of such. Dispatch did not mention any impending concerns of turbulence at destination.

As we approached the KIAH area at about 200 miles, I began to notice increasing cumulus and some isolated towering cumulus which got me looking at the RPM for lower altitudes on WSI and also lower altitudes on Skypath. Neither showed any turbulence concerns with only a few dots of green on radar around the Houston area. We all know that cumulus clouds usually mean some turbulence exists. During our last bathroom break prior to decent, Flight Attendant Carmona came up to the Flight Deck. After the usual pleasantries, I did point out the cumulus clouds ahead through the wind screen and told her that it may be bumpy and that we would seat them using the PA command if necessary. I usually tell all Flight Attendants to inform the Lead Attendant, but I cannot remember if I specifically told her that. I think there is always the assumption that they will share that information with their flying partners.

We began our descent on the DRLLR5 arrival originally for RWY26R but were later assigned RWY26L. First Officer Honda seated the passengers as I kept reassessing our flight path both visually and on WSI. I did not feel the radar would have been any help as the cumulus and most of the towering cumulus were fairly small in character and had not developed to the point of any cell activity. I decided to double-chime the Flight Attendants at approximately 12000 feet to elicit their PA to the passengers to begin the process of cabin preparation early. As we approached the airport environment and near 10000 feet, I finally determined that some penetration of cumulus clouds would be inevitable and gave the PA command, "Flight Attendants take your jump seats". In my opinion there was sufficient time for the Flight Attendants to do so. During the descent, disengaging the autopilot, I was able to slightly deviate around one cumulus cloud directly in our path. There were cumulus clouds packed more densely to our left and there were not any viable deviation paths at that point. We noticed and discussed another cumulus cloud which appeared to be near our turn at DOMNO. It had a building column off its south side

about 1000-1500 feet above our altitude. We both felt our flight path would turn us slightly before it. As the autopilot made the turn, we both realized that we would fly through the NW side it. I recall thinking that it would be all right since we had mitigated that threat with everybody being seated. We were through it in about 5 seconds. While it was an abrupt change from the previous smoothness, we characterized it as no more than continuous light turbulence with a slight upward motion. The timeline suggests it would have to be at this point that the injury to Flight Attendant Carmona occurred.

We were eventually vectored onto the ILS26L where we received notification of the injury and coordinated paramedics with ATC.