TO: Jim Struhsaker, NTSB Investigative Team Leader

FROM: Andy Mills, Carson Party Coordinator

Date: 29 November, 2010

RE: H44 Approach Study, LAX08PA259

Carson hereby responds to the H44 landing Approach Study by John Clark entered in the Docket on 21 September, 2010.

Carson was not sent a copy of this report for comment, and we were unaware of its placement in the public docket until just recently. The report contains some implications about Carson's position regarding the Sky-Connect data that is incorrect, and reaches some findings that are factually flawed. We would like to take this opportunity to put our comments on record.

1.On the first page and elsewhere in the report, it states that copilot interviews conducted post-accident indicate that he felt outside air temperature at H44 "prior to the accident takeoff was 22 deg C."

In our reading of the published NTSB interview, the copilot states on page 8 that the temperature at H44 was 22 deg. C…….on the first landing of the day at H44, significantly earlier than the actual accident takeoff time. This temperature has no bearing on the temperature during the accident takeoff, and does not verify anything in the NTSB study or Meteorological report. References to it for the accident takeoff are misleading and any conclusions about the 3rd takeoff from H44 several hours later based on this temperature are incorrect and not useful.

2. The report states that Carson bases its temperature conclusions in part on the copilot's CVR statement that "we are at 6000 feet now" at 19:33:31. This is incorrect. In its written analysis of the Skyconnect data and CVR comments, Carson has never referenced this comment, because it is irrelevant to the temperature.

Our comment is that the Sky Connect data shows a position of 6300 ft. elevation at 19:33:26, and this is the last known fixed elevation position before they land at H44. The study contends that the aircraft may have gained some altitude passing over the ridge before commencing its final leg into H44. That is entirely possible. It is also not materially important.

3. The copilot stated the OAT as 20 deg. C at 19:34:53 after they passed the ridge and commenced final approach. The NTSB GPS plots show clearly that they have already passed over the ridge at least 20 seconds prior and are on short final when the copilot reads the temperature. By 19:35:32, they are already on the ground at H44 and the engines are spooling down. That means they covered the last distance from the temperature callout in something less than the 43 seconds elapsed time, since the next Sky Connect point is after they are already safely landed, and several seconds have certainly elapsed after landing.

Carson's contention is that by the time he reads the OAT while inbound, they are not too far above the elevation of the H44 pad itself, although it is impossible to know exactly where they were in elevation at this stage. However, the NTSB study contends that they "were at 6600 feet or higher" when he reads the temperature. This would mean that on their final approach into H44, from the time of the OAT comment at 19:34:53 to actual initial touchdown in something less than 40 seconds, they were descending at a rate greater than 900-1000 feet per minute descent just before landing. This is an extremely unlikely scenario, since they had plenty of room on that path for a shallow approach, the USFS prefers shallow low approaches into helipads rather than steep descents, and there was a USFS inspector pilot on board. They also had the benefit of two prior landings into the site and knew that a steep flare would increase the existing dust problems. This study does not account for any of these factors.

4. The report states "Equally important, the reference on the CVR to 20 deg. C is also correct because the helicopter was likely at about 6600 feet or higher at the time of the call…."

This is complete supposition by the NTSB and there is nothing in this study that factually supports this statement. There is no Sky-Connect point showing their location over the ridge. The NTSB's own plots show the comment being made many seconds after it is supposed they crossed the ridge, which in itself is a pure guess. It is also not likely or supportable that the pilots would come into the H44 pad near the end of the approach and descend at 900-1000 feet per minute onto the pad. It is more likely that they steadily dropped to an elevation slightly higher than the H44 ridgeline and approached at a shallower angle on final approach, which is in keeping with the analysis we previously offered. It is entirely logical that the pilot would read the OAT during this approach, although we will never know his exact elevation.

5. Carson has recently been advised that the NTSB is aware that the copilot recalls in distinct detail reading the OAT gauge while they were sitting on the H44 pad when he calls out 12 to 13 degrees cooler than mission planning temperature, which means the temperature at H44 just prior to liftoff was 19 to 20 degrees C. This was read from an OAT gauge that was checked for function less than 10 days prior, and is accurate within 1 deg. C, and was read by an

experienced, professional ex-military and mountain pilot. This has been Carson's position from early in the investigation.

6. In the findings, the claim is made that the study shows at the time of the crossing of the ridge the temperature was 20 deg. C. at 6600 ft. and that therefore a temperature of 23 deg. C at H44 is appropriate. There is not one item in this study that remotely proves either of those points. In fact, this study makes the claim that when the pilot reads the temperature on final approach he is at least 6600 ft. or higher, yet offers no factual evidence to prove the claim. The study then applies an adiabatic cooling rate to the copilot's initial report earlier in the day of 22 deg. C in order to justify a 20 deg. temperature at 6600 feet; but this is a false premise, since that 22 deg. temperature was from earlier in the day and is not a valid basis for any calculation on the last takeoff.

This study should be reconsidered, because it does not factually support any of the NTSB contentions regarding temperature and it is completely and soundly refuted by the copilot's direct testimony. The NTSB must use the best available facts for temperature at H44, and that is 20 deg. C. The landing study does not contain data to support a 23 deg. C number.