FACTUAL REPORT – ATTACHMENT 3

Flight Test Report – Snorkel Stability Testing

AIRWORTHINESS

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control position for the firefighting system also depicts a minimum control position of 2.5 centimeters like the 090º azimuth. Again, there are no anomalies or control margin problems.

The test result for the 180° azimuth show the longitudinal and pedal position for both configurations were almost identical. The lateral cyclic positions for both configurations were almost identical to the lateral control positions for the 135º azimuth. However, the lateral cyclic control margin had increased slightly. There were no anomalies or control margin problems.

Nothing unusual was noted in either configuration at the 225 and 270º azimuths. All control positions were linear and there were no control margin issues. The pedal margin at 45 ktas for the firefighting configuration was slightly greater than the baseline (~0.5 centimeters). Additionally, all three flight controls for the 225º azimuth were fairly close to the 50% position.

Lastly, the 315º azimuth data points for both configurations were linear. The trend lines for both configurations, for all practical purposes, were parallel to each other.

In summary, azimuth 360° and 090° required minor pilot compensation while azimuths of 180° and 270° required moderate pilot compensation. This moderate pilot workload resulted in some scatter in the low speed data. The flight test pilot felt there was little of no difference in pilot workload for either configuration. The water tank & snorkel did not demonstrate tendency to vibrate or exhibit any other undesirable effects. The data showed adequate control margins on all evaluated azimuths up to 45 knots.

Snorkel Stability Testing

The stability of the snorkel was thoroughly evaluated. The testing included pickup to an OGE hover and flight out to the snorkel's Vne (175 kias) and 1.1 Vne (193 kias). The maneuvers included wing level flight, 30° left and right banks, climbs and "normal" descents and autorotative descents. During these maneuvers, longitudinal and lateral cyclic and pedal oscillatory inputs were accomplished so that any possible snorkel instabilities would be excited. The frequency of the various inputs was determined inflight.

During testing snorkel stability was qualitatively found to be stable in throughout the testing. There were no adverse findings, no oscillation noted or anything unusual recorded with the video camera. Even in a high-speed dive the snorkel tip remained at least 5 feet from any part of the UH-60. This evaluation confirmed that the water tank & snorkel installation does not exhibit any undesirable vibrations, nor does it cause any excessive vibration under any speed or power condition.

Filling Water Tank Testing (Manually and Snorkeling)

The water tank was refilled on the ground using an external source of water attached to the water nozzle built into the tank. Also, the maximum pressure that can be utilized with the ground refilling was determined and will be placed in the limitation section of the RFMS. Additionally, the tank was serviced from a hover utilizing the snorkeling system. Both methods were tested in accordance with this test plan to ensure both functioned as designed and there are no abnormal hazards associated with either method of refilling the tank. The pilot workload maintaining position and height about ground was no greater then seen in other helicopters with snorkels.