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Date: 10 May 2017  
To: Thai Aviation Services Limited  
Attention: Grant Robinson  
Regarding: HUMS RTB Over Goal Exceedances Letter  
Technical Case #: C0060264

Grant Robinson,

Subject: HUMS Rotor Track and Balance Over Goal Exceedances Reference: FTR 03514T024/ 03514T024 - HUMS exceedances TR Ground - Over Goal, TR LOW - Over Goal, MR Ground - Over Goal, MR Hover - Over Goal, MR 125KTS - Over Goal, MR 145KTS - Over Goal and MR 155KTS - Over Goal Since the launch of the S-76D, a significant number of 'Over Goal' exceedances have been recorded in the HUMS data. A review of HUMS data found recorded values in excess of the goal limits set in Chapter 18 of the AMM were present for each of the exceedances. However, the majority of the exceedances are actually minor excursions over the AMM ips goal limit, and below a point where immediate corrective action (rotor tuning maintenance) would be warranted. A HUMS software update based on field data review, system enhancements and customer feedback is planned and the 'Over Goal' exceedances is one of the items to be addressed. In the interim, Sikorsky would like to provide guidance to assist operator personnel reviewing HUMS data to quickly determine if corrective/maintenance action is warranted when an 'Over Goal' exceedance is recorded in HUMS data. When reviewing HUMS data, if either a TR Ground - Over Goal or TR LOW - Over Goal exceedance is 0.50 ips or above, it should be considered a valid exceedance that the maintainer should address via maintenance as soon as practical (i.e. performing tail rotor balance per the AMM). All other 'Over Goal' exceedances currently being identified in the HUMS data pertain to main rotor 1/rev, 2/rev, and 3/rev vibration. The main rotor 1/rev, 2/rev and 3/rev vibration levels, along with the characteristic main rotor 4/rev vibration levels maintained on the S76D aircraft are evaluated against vibration limits/goals defined to provide crew comfort while the aircraft is being operated. The Sikorsky NVH group's recommendation is that the aircraft is to be operated within AMM Ch. 18 vibration limits. If a review of the Rotor Tuning displays of the HUMS ground station yields identification of consistent vibration levels exceeding defined limits of AMM CH. 18, then the maintainer is directed to perform rotor track and balance activities at the next convenient maintenance interval or as otherwise required. The maintainer should not immediately ground the aircraft due to operation out of the main rotor 1/rev, 2/rev, 3/rev or 4/rev vibration limits unless associated with a crewmember complaint of high or objectionable in-flight vibration (as this is one of the entry criteria into main rotor flight tuning, ref. AMM 18-13-00). In addition to the guidance provided in this letter, Sikorsky will keep operators apprised of key developments in the HUMS software update process. Additionally, Sikorsky welcomes any suggestions for future enhancements to the HUMS software.

Best Regards,

Tom Pinamonti  
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Sikorsky Aircraft Corporation

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