

TABLE D1A—MINIMUM FTD REQUIREMENTS—Continued

QPS requirements					Information	
Entry No.	General FTD requirements	FTD level				Notes
		4	5	6	7	
2.c. ....	<p>Relative responses of the flight deck instruments must be measured by latency tests or transport delay tests, and may not exceed 150 milliseconds. The instruments must respond to abrupt input at the pilot's position within the allotted time, but not before the time that the helicopter or set of helicopters respond under the same conditions</p> <ul style="list-style-type: none"> <li>• Latency: The FTD instrument and, if applicable, the motion system and the visual system response must not be prior to that time when the helicopter responds and may respond up to 150 milliseconds after that time under the same conditions.</li> <li>• Transport Delay: As an alternative to the Latency requirement, a transport delay objective test may be used to demonstrate that the FTD system does not exceed the specified limit. The sponsor must measure all the delay encountered by a step signal migrating from the pilot's control through all the simulation software modules in the correct order, using a handshaking protocol, finally through the normal output interfaces to the instrument display and, if applicable, the motion system, and the visual system.</li> </ul>		X	X	X	The intent is to verify that the FTD provides instrument cues that are, within the stated time delays, like the helicopter responses. For helicopter response, acceleration in the appropriate, corresponding rotational axis is preferred.
<b>3. Equipment Operation.</b>						
3.a. ....	All relevant instrument indications involved in the simulation of the helicopter must automatically respond to control movement or external disturbances to the simulated helicopter or set of helicopters; e.g., turbulence or winds	A	X	X	X	
3.b. ....	Navigation equipment must be installed and operate within the tolerances applicable for the helicopter or set of helicopters. Levels 6 and 7 must also include communication equipment (inter-phone and air/ground) like that in the helicopter. Level 5 only needs that navigation equipment necessary to fly an instrument approach	A	X	X	X	
3.c. ....	Installed systems must simulate the applicable helicopter system operation both on the ground and in flight. At least one helicopter system must be represented. Systems must be operative to the extent that applicable normal, abnormal, and emergency operating procedures included in the sponsor's training programs can be accomplished. Levels 6 and 7 must simulate all applicable helicopter flight, navigation, and systems operation. Level 5 must have functional flight and navigational controls, displays, and instrumentation	A	X	X	X	
3.d. ....	The lighting environment for panels and instruments must be sufficient for the operation being conducted	X	X	X	X	Back-lighted panels and instruments may be installed but are not required.