

Comment				Comment summary	Suggested resolution	Comment is an observation or is a suggestion*	Comment is substantive or is an objection**	EASA comment disposition	EASA response
NR	Author	Section, table, figure	Page						
1	Airbus Helicopters	All	All	<p>Global comment</p> <p>The revision 2 is significantly different and lighter than the previous one. It now mainly focusses on the justification of installation of external equipment on a previously 952 certified H/C.</p> <p>AH believes that this memo is going is in the right direction (except one point discussed later), and is globally in line with the dicussions we have had over the past years with EASA.</p> <p>AH fully concurs with the three following statements:</p> <ul style="list-style-type: none">- “EASA considers that the crash-resistant fuel bladder is the most significant element of an effective CRFS”- With design precautions (installation, of external fixtures out of the boundaries of the fuel tanks or installation of shields/protections), applicants should be capable of showing that the surrounding structure that is representative of the installation is “free of projections or other design features likely to contribute to rupture of the tank” (CS 27/29.952 (a) (4)) without the need for additional compliance demonstration through testing.- EASA supports the use of dynamic simulation that is correlated with the certification drop test for this purpose	None			Noted	EASA notes Airbus Helicopter’s general support of the Certification Memorandum and concurrence with the quoted statements.

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2	Airbus Helicopters	3.1	6	<p>AH understands that the certification memo deals with external installation, and that, consequently, consideration of equipment above fuel tanks that are installed below cabin floor, is not appropriate.</p> <p>Furthermore, AH does not concur with the introduction of consideration of equipment installed above the fuel tank: <i>“The surrounding structure definition in the AC should also be considered to include any equipment that is installed in the vicinity of the fuel tank (above and underneath) for certification.”</i></p> <p>Reference of items above the fuel tank is not relevant to the subject of this certification.</p> <p>The drop test as per §952 a) is recognized by the community as a very conservative and standardized test, of the fuel tank(s) alone (with surrounding structure) and impacting the ground with a kinetic energy around four times of the survivable energy. This conservatism has shown very good results on all A/C certified against §952, with a strong reduction of post crash fires. The statistics also show good results with partially compliant H/C (i.e. equipped with crashresistant fuel bladders). In addition, it is recalled by EASA (and fully shared by AH), that “the crash-resistant fuel bladder is the most significant element of an effective CRFS”.</p> <p>Because of their location, equipment/items installed beneath the fuel tanks naturally constitute a potential risk of puncture at impact, and are considered in the §952 compliance demonstration (equipment included in the test specimen, or substantiated by analysis, or protected).</p> <p>AH opinion is that the considerations regarding equipment installed above the fuel tank is not relevant for to the §952 demonstration principle. Substantiation of floor and above equipment is covered in parallel through compliance substantiation to §561.</p>	<p>AH therefore proposes to remove the reference to “equipment above” the fuel tank from the CM as follows:</p> <p><i>The surrounding structure definition in the AC should also be considered to include any equipment that is installed in the vicinity of the fuel tank (above and underneath) for certification.”</i></p>	YES		Agreed	<p>EASA welcomes Airbus Helicopter’s positive comment.</p> <p>The text is modified according to the following:</p> <p><i>The surrounding structure definition in the AC should also be considered to include any equipment that is installed in the vicinity of the fuel tank for certification.”</i></p>

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3	Airbus Helicopters	3.2	6	Even if testing can be avoided with design precautions, it is not written that additional compliance demonstration is completely off topic. The memo should give some details about the expected compliance demonstration (MOC 0, MOC 1, MOC 2...)	EASA may clarify the expectations regarding the compliance substantiation: MOC 0 (Compliance statement), MOC 1 (description of the shield or fixture installation), MOC 2 (stress analysis, static or dynamic) to support the statement of free projections. On AH side, the 3 above MoCs (0, 1 and 2) are considered relevant for compliance demonstration without testing. The choice between MoC 0, 1 or 2 depends on the content of the design modification.	YES		Not Agreed	EASA considers that the CM does not need to be more specific, as the choice of MoC will depend on the content of the design modification.