IV. CRD table of comments, responses and resulting text

(General Comments)	-

comment	*1* comment by: *Luftfahrt-Bundesamt* The LBA has no comments.
response	N/A

comment	2 comment by: FOCA (Switzerland) Thank you for the opportunity to comment. We have no remarks on this document.
response	N/A

comment	7 comment by: GE Aerospace Although LPT drive arms are mentioned in section 3.1, it is unclear if the document overall applies to HP, IP, and/or LP drive arms. Suggest to clarify the applicability of the document.
response	Section 3.1 has been amended to refer to "all" Turbine drive arm features.

comment	*11* comment by: *DGAC France* DSAC France would like to thank you for this consultation. We have no specific view on this proposal.
response	N/A

1. Identification of Issue	p. 3

comment	*3* comment by: *Safran Helicopter Engines* The drive arms refers to "*a feature connecting a turbine disc to a turbine shaft, as well as to a feature delivering torque between turbine rotor stages*". Does this definition include curvic coupling teeth integral to the turbine and protruding by a few millimeters from the turbine disc body ?
response	Clarified in para 1.

3.2. Certification of Changes to Existing Products	p. 5

comment	*4* comment by: *Safran Helicopter Engines* The paragraph says "For certification of changes to existing products for which rotor integrity is an affected area,"

	The need for assessment should be limited to the cases where the integrity of the drive arm is affected, and the paragraph should say "For certification of changes to existing products for which rotor integrity **of the drive arm** is an affected area,"
response	EASA accepts this comment. The prior wording would have implied that service experience of all rotors should be assessed if any rotor was an affected area. Also, the assessment referred to any failure of the changed product, including those that were non-Hazardous or that did not involve Turbine Drive Arms failure. The wording has been changed to limit the need for assessment of service experience to the specific shaft affected by the change. Furthermore, the continued use of the original compliance approach is accepted unless service experience indicates that a Hazardous Engine Effect due to failure of a Turbine Drive Arm could affect the changed product, and the change increases the likelihood or the consequence of the failure.

comment	*5* comment by: *Safran Helicopter Engines*
	The paragraph says "*The changed product should retain the existing general configuration with no new threats to Turbine Drive Arm integrity being introduced by the change.*" We consider that a decrease of Turbine Drive Arm integrity margins, due to very limited increase of rotation speed or turbine gas inlet temperature, while remaining in the state of the art, should not be considered as a new threat. Could you please clarify this point in the paragraph ?
response	Comment accepted. Para 3.2.1 clarified

comment	*6* comment by: *Safran Helicopter Engines*
	The paragraph says "*The changed product should retain the existing general configuration with no new threats to Turbine Drive Arm integrity being introduced by the change.*" We consider that the word "theats" needs further clarifications, for instance by giving also examples of new threats. We could propose as examples: - a change in the oil system introducing a new risk of an oil fire in the vicinity of the drive arm, or - a change in a part surrounding the drive arm introducing a new risk of rotor/stator rubbing.
response	Comment accepted. Para 3.2.1 clarified

4.1. References p. 5

comment	*9* comment by: *GE Aerospace*

	The list of "Potential Mechanisms for Loss of Load in a Torque Carrying Section of a Shaft System" in Table 1 of CM-PIFS-017 Issue 1 was compiled by the AIA advisory working group specifically for HPT shafts based on actual OEM experience. That list may have items which are not applicable to LPT drive arms and therefore adding significant work with little value. More importantly, this list may be missing items which are uniquely applicable to LP drive arms such as vibratory stimulus from imbalance in the HPT rotor. Therefore, GE Aerospace recommends an effort to determine the appropriate "Potential Mechanisms.." for LPT drive arms.
response	Comment accepted. Para 3.1 clarified to accept the need to adapt specific guidance

comment	*10* comment by: *GE Aerospace* The AIA advisory working group created Annex 1B for CM-PIFS-017 Issue 1 with sketches of example architectures to clearly show which areas are
	considered HP shafts. GE Aerospace recommends a similar document be created for LPT drive arms.
response	Not accepted. The written definitions are considered broad enough to cover the wide range of designs.