European Union Aviation Safety Agency

COMMENT RESPONSE DOCUMENT

EASA PAD No. 22-134

[Published on 17 October 2022 and officially closed for comments on 14 November 2022]

Commenter 1: PLL LOT S.A. CAMO – Wiktor Radoń – 18/10/2022

Comment # 1

PAD 22-134 – Required Action and Compliance Time section:

"During the next qualified engine shop visit, as defined in this AD, after the effective date of this AD, inspect the affected part in accordance with the instructions of section 3 of the NMSB. For an engine that, on the effective date of this AD, is in a qualified engine shop visit, accomplish the inspection before release to service of the engine."

While SB 72-AK711 specifies incorporation of the SB :

"Engines currently In-shop at the time of issue of this NMSB must also be inspected where HP system module re-build has not yet started"

Enquiry: As a general description referring to an engine being "in a qualified engine shop visit" might also address the condition prior final certification – such wording might require HP system module disassembly which in our understanding is not the intent of the AD.

Please specify the wording for which phase of engine shop visit requirement of AD performance shall be considered required as per compliance section. Suggested unification with SB content might be beneficial.

EASA response:

Comment agreed. The reference to 'qualified engine shop visit' has been amended in paragraph (1) of the AD to take the 're-build not yet started' into account.

Commenter 2: Singapore Aero Engine Services Pte Ltd – Malek Aziz – 21/10/2022

Comment # 2

A. What is the definition of “eligible part” in paragraph (2) Corrective Actions?

B. There is an existing Technical Variance TV245228 that changes the CRM and CIR limits. Is that TV acceptable as a substitute to Service Bulletin 72-AK711? Can the TV be included in the AD?

C. The SB 72-AK711 instructs to raise a Technical Variance if the seal is beyond limits. Will that TV (if issued) be acceptable to the compliance of the AD?

D. Does the AD restrict transferring of HP and IP Turbine Modules on engines that have not been inspected as per the AD?

E. We would also like to confirm our understanding that this AD requires a one-off inspection on all engines except those that are stated in Appendix 1 in the NMSB. The AD does not require to be accomplished again on engines/parts that comes into the shop again after the accomplishment of 72-AK711 in the previous shop visit.

F. Reporting: As per SB 72-AK711, report to the Trent 1000 services team using the Appendix 2. This is acceptable to the AD.

EASA response:

A. Comment noted. This is any part (P/N) that has an installation approval, either from the product TC holder, or from an STC holder, which has been determined to be either new, or a used part free from discrepancies.

B. Comment not agreed. Rolls-Royce TV245228 was issued to provide advance approved data ahead of publication of revisions to the CRM and CIR manuals. However, section 3.B (1) of NMSB 72-AK711 instructs to 'Inspect the HP turbine inner triple seal fins 4, 5 and 6 for wear and/or missing material in accordance with current CRM procedure or CIR procedure, depending on the level of strip of the component.' There is no specific reference to TV245228 in NMSB 72-AK711, therefore no deviation from the current CRM or CIR limits is permissible as the AD requires that the affected part is inspected in accordance with the instructions of section 3 of the NMSB.

C. Comment partially agreed. The AD does not require operators to request a TV. If such (optional) action is taken, depending on the TV content, this may be subject of an AMOC approval before its use. For clarification of the AD’s intent, the wording of paragraph (2) has been amended to “replace the affected part and the IP turbine disc with serviceable parts” ***and introducing a Note 1:*** “Any removed and quarantined affected part or IP turbine disc may be reinstalled, provided the affected part and/or IP turbine disc has been re-assessed by Rolls-Royce to be a serviceable part, confirmed by a Technical Variance”.

D. Comment noted. The AD does not restrict such actions, provided the compliance time for inspection of the affected part is not exceeded.

E. Comment agreed. The commenter’s understanding is correct.

F. Comment noted. The AD does not require reporting, which in this case is unrelated to safety, therefore at the operator's discretion.

No changes have been made to the Final AD in response to points A, B, D, E and F of this comment.

Commenter 3: ALL NIPPON AIRWAYS CO.,LTD – Katsuya Saiki – 11/11/2022

Comment # 3

A. Rolls-Royce Alert NMSB TRENT 1000 72-AK711 says the following: "Engines currently In-shop at the time of issue of this NMSB must also be inspected where HP system module rebuild has not yet started." However, PAD No.: 22-134 only mentions the following: "Qualified engine shop visit: A shop visit where the HP module rework is at Level 2 (Check and Repair) or higher Level. Refer to Rolls-Royce Engine Management Programme for rework package definition." Should the engines for which re-building of the HP system module has already started at the time of issue of this EASA AD be inspected?

B. In NMSB72-AK711, "Accomplishment Instructions" is instructed to submit a TV request when the Triple Seal Fins are worn beyond limits Fin is identified. After Rolls-Royce assessments, Technical Variance (TV) is possible to be issued to allow their continued use with minor deviations from the manual limits. So ANA would like to clarify what parts are permitted to be fitted in accordance with this AD.

C. In Corrective Action(s), it is defined to "ensure that a serviceable HP turbine triple seal and IP turbine disc, eligible for installation, are fitted."

   Does "eligible for installation" include parts that have been assessed by Rolls-Royce and accepted for continued use as a result of a TV request submitted on NMSB72-AK711? If yes, ANA requests to define "eligible for installation" in the "Definitions:" to clarify that these parts that have been assessed by Rolls-Royce and accepted for continued use can be fitted.

D. Rolls-Royce often issues Repeater TV that can be commonly applied to engines. The purpose of Repeater TVs is an advanced issue of coming manual revision, which is to immediate effect to the current manual, because there is a lead time to be reflected in the current manual from Rolls-Royce internal manual revision process. A Repeater TV which is related to this SB TRENT000 72-AK711(i.e. CIR or CRM limitation for the Triple Seal Ring Seal Fin) has been issued, therefore, ANA would like to use this Repeater TV.

   "Ref. Publications:" accepts to use later approved revisions of NMSB TRENT 1000 72-AK711 for compliance with the requirements of this AD. ANA request to consider Repeater TVs for an advanced issue of coming manual revision can be for compliance with "current manual" in NMSB TRENT 1000 72-AK711 [section] 3. Accomplishment Instructions.

EASA response:

A. Comment agreed. See EASA answer to Comment #1 above.

B. Comment noted. See EASA answer to Comment #2 point C above.

C. Comment noted. See EASA answer to Comment #2 point C above.

D. Comment not agreed. See EASA answer to Comment #2 point D above.

No changes have been made to the Final AD in response to point D of this comment.