EASA	COMMENT RESPONSE DOCUMENT
	EASA PAD No. 14-029 **[Published on 04 February 2014 and officially closed for comments on 04 March 2014]**

Commenter 1: The Boeing Company – D. A. Biggs – 24.02.2014

Comment # 1

Boeing has reviewed the subject NPRM and concurs with the contents of the proposed rule. Therefore, no additional comments will be forthcoming.

EASA response:

Comment noted and appreciated.

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

Commenter 2: American Airlines – John Beavers – 27.02.2014

Comment # 2

References:

1. EASA PAD 14-029
2. Rolls-Royce ASB RB.211-73-AH001
3. 777 AMM 73-21-11
4. Aero Engine Controls SB EEC9000-73-7792 [Revision 1 dated 17 July 2013]

EASA PAD, Reference 1, is issued for comment and was prompted by the recent development of an Intermediate Pressure Turbine Overspeed System (IPTOS) protection scheme for the Trent 800 engines installed on the Boeing 777 aircraft. This protection scheme is implemented by the incorporation of a new engine electronic controller (EEC) software standard, B7.2. AAL has reviewed Reference 1, and is in agreement with the intent, but note the EEC software configuration rather than the means of installing the software is the safety element of this Proposed Airworthiness Directive. Reference 4 notes that the preferred procedure to install the software is to "Copy the files directly into the EEC from the flight deck." Reference 3 provides instruction for the upload of new EEC software via the maintenance access terminal (MAT) without entering the electronic-unit protection-box or engine. This would potentially conflict with the instructions of the PAD to "modify the engine by installing an EEC incorporating EEC software standard B7.2 in accordance with the instructions of RR Alert Service Bulletin (SB) RB.211-73-AH001".

To address the conflicting instructions regarding EEC and software installation procedures, AAL suggest the following changes:

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Under "Required Action(s) and Compliance Time(s)": • Revise Item (1) to read "After 12 months of the effective date of this AD, do not operate Trent 800 engines with an EEC configured with software versions prior to B7.2. Details for obtaining the software are located in Roll s-Royce Service Bulletin RB.211-73-AH001 dated 17July2013 and Aero Engine Controls Service Bulletin Revision Transmittal EEC9000-73-7792."

• Delete Item (3) as it is unnecessary, or, revise item (3) to read "After modification of an engine as required by paragraph (1) of this AD, do not operate Trent 800 engines with an EEC configured with software versions prior to B7.2."

EASA response:

Comments partially agreed. To be clear, RR ASB RB.211-73-AH001, Section 3 Accomplishment Instructions, already states that the engine modification must be done, either by option A. to "Install the new software in accordance with current overhaul or maintenance procedures (Engine Manual, 72-00-34, Removal and Installation or Aircraft Maintenance Manual, 73-21-11, Maintenance Practices)***" or by option B. to "***Install the software using the software data download (Aircraft Maintenance Manual, 73-21-11, Maintenance Practices). The new Software for Software Data Download is available on a diskette Part No. 86636332 (VU4287)***".***

Paragraphs (1) and (2) of the Final AD have been amended in response to this comment.

Commenter 3: Rolls-Royce – Torsten Geis and Richard Sherpherd – 04.03.2014

Comment # 3

A. The "Applicability" section of the AD lists the engines "RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17 and 895-17, and then says "These engines are known to be installed on, but not limited to, Boeing 777 aeroplanes." The B7.2 software is applicable only to the 777, therefore the "not limited to" statement should be removed, to clarify that the AD is applicable only to the 777.

B. Replace: "Contrary to certification assumptions, RR Trent family service experience has shown the possible threat of intermediate pressure (IP) turbine overspeed in the event of IP shaft failure. In addition, several fire related failure modes have been identified that could lead to IP shaft failure. This condition, if not corrected, could lead to uncontained multiple turbine blade failures or an IP turbine disc burst, possibly resulting in damage to, and reduced control of, the aeroplane." with: "A Trent engine has experienced an engine internal fire caused by combustion of carbon deposits inside the HP/IP oil vent tubes. The consequent chain of events resulted in the failure of the IP Turbine disc drive arm. Similar engine architecture exists on the Trent 800 series engines. This condition, if not corrected, could lead to uncontained multiple turbine blade failures or an HP/IP turbine disc burst, possibly resulting in damage to, and reduced control of, the aeroplane."

EASA response:

Comment A not agreed. It is recognised that, currently, only Boeing 777 aeroplanes are fitted with Trent 800 engines, but this may not be true in future. The standard wording 'but not limited to' used in cases like this is to ensure that the engine will be compliant with the requirement, irrespective of aeroplane installation. In case that, for another (future) aeroplane application, a different software is necessary to be installed to address the same unsafe condition, that will have to be handled through recognition of that installation as an approved alternative method of compliance (AMOC). No changes have been made to the Final AD in response to this comment.

Comment B partially accepted. The Reason section of the Final AD has been amended accordingly.

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