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B-H300-02-JGD-054

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DEPT. OF TRANSPORTATION  
FAA



Docket Management System  
Docket No. FAA-2002-12244  
U.S. Department of Transportation  
Room Plaza 401  
400 Seventh Street, SW.  
Washington, DC 20590-0001

Subject: Comments to Docket FAA-2002-12244 - 2

Reference Notice No. 02-08, "Powerplant Controls on Transport Category Airplanes, General," published in Federal Register on May 8, 2002 (67 FR 30820)

Dear Sirs:

Boeing Commercial Airplanes has reviewed the subject NPRM on "Powerplant Controls," which was released as part of the FAA's "Fast Track" program. We concur that the intent of the proposed rule will facilitate our efforts to comply with European and U.S. aviation standards. However, we recommend additional changes in the proposed rule text that will clarify its intent. We also recommend changes to and enhancement of the guidance provided in the preamble to the proposal that will better support compliance with the new rule. These items are discussed in the enclosure to this letter.

Please direct any comments or questions to Ms. Jill DeMarco of this office at (425) 965-2015.

Sincerely,

Jim Draxler  
Director, Airplane Certification and  
Regulatory Affairs

Enclosure

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cc:

Aerospace Industries Association  
Attention: Skip Jones, Director,  
Engineering and Certification  
1250 Eye Street, NW., Suite 1200  
Washington, DC 20005-3924



Federal Aviation Administration  
Transport Airplane Directorate  
Propulsion/Mechanical Systems Branch  
Attention: Michael McRae, ANM-112  
1601 Lind Avenue S.W.  
Renton, WA 98055-4056

**Boeing Commercial Airplanes  
Input to Docket FAA-2002-12244, NPRM Notice 02-08  
"Powerplant Controls on Transport Category Airplanes, General"**

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1. **Revisions to Proposed Rule Text:** We recommend that the text of §25.1141(f) be revised as follows. Our justification for the recommended changes is provided below.



**FAA's proposed paragraph (f):**

- (f) *Powerplant valve controls located in the flight deck must provide the flightcrew with means to:*
- (1) *Select each intended position or function of the valve;*
  - (2) *Indicate the selected position or function of the valve;*  
*and*
  - (3) *Indicate when the valve has not responded as intended to the selected position or function*

**Recommended revision to paragraph (f):**

- (f) *For powerplant valve controls located in the flight deck there must be a means to indicate to the flight crew:*
- (1) *the selected position or function of the valve; and*
  - (2) *when the valve has not responded as intended to the selected position or the selected function.*
- Delete §25.1141(f)(1). If paragraph (f) were revised as recommended, proposed paragraph (f)(1) would be redundant to other parts of §25.1141. Although it is acceptable to have redundant information in a regulation, the existing first paragraph of §25.1141 more completely defines the desired requirement than does proposed paragraph (f)(1).
  - Revise §25.1141(f) to allow for an "independent means" to provide indication to the flight crew. As written, the proposed rule would require the *valve controls* to provide the means.
  - Revise §25.1141(f) to require "a means to indicate to the flight crew," rather than "provide the flight crew the means to indicate." The wording of the proposed rule is misleading.
  - Combine proposed subparagraphs (f)(1), (f)(2), and (f)(3) as recommended above to clarify the intent of this section of the regulations.

## 2. Revisions to Preamble Material

We have three recommendations for revisions to the guidance contained in the preamble to the proposed rule:

- a. **Draw attention to crucial compliance guidance.** In the preamble to the rule, there is a heading that asks *Is Existing FAA Advisory Material Adequate?* The FAA's response to this question was:

"With the change in the proposed standard, the FAA does not consider that additional advisory material is necessary."



However, elsewhere in the preamble (i.e., in the discussion under the headings *What Comments Did ARAC Have Concerning the Proposed Action?* and *What Other Options Have Been Considered and Why Were They Not Selected?*), the FAA actually provides certain guidance/interpretive material that is crucial for applicants attempting to comply with the rule.

For example, under the heading *What is the Proposed Action?*, there is a portion of the discussion in which the FAA describes in detail the definition of "the means to indicate." Knowing the intended definition of "means to indicate" is central to compliance with the proposed rule, because it is the definition is neither obvious nor explained in the rule text itself. Therefore, we recommend the following:

- Reformat the preamble to ensure that this information is clearly and distinctly identified as "Guidance Material" or "Interpretive Material." This would provide the reader more attention to this important issue.

or

- Consider including this information (and the suggestions below) in a separate document (e.g., an Advisory Circular) that would provide specific advice to applicants for compliance with the rule requirements. Even though the guidance information may appear in the preamble to the proposal, preambles are often "lost" or not easily accessible -- and not often read or used -- after a final rule is published.

- b. **Better define "Inherent response."** We also recommend that the FAA revise a portion of its definition of a "means to indicate." The following text, based on the JAR, should be added to the definition to better explain the intended meaning of the phrase "inherent response" as used in the definition:

The current text in the preamble states that the "means to indicate" can be:

... Provided either by a dedicated "indicator" or through the inherent response of the airplane, system, or valve control.

We recommend that this be changed to:

... Provided by a dedicated "indicator," unless other indications in the flight deck give the flightcrew a clear indication that the valve has moved to the selected position.

- c. **Address manual control valves.** We recommend that the guidance material address the indication requirements for manual valve controls and allow use of the current amendments to the rule. For these manual controls, neither 14 CFR 25.1141(f)(1) nor JAR-25.1141(f)(1) currently require a means to indicate to the flightcrew when the valve has not moved to the selected position. The proposed harmonized rule would impose this new requirement on manual valve controls, yet the preamble states *"the proposed standard duplicates the current requirements for those applicants who certify their designs to both 14 CFR and the JAR."*

