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Docket Management Facility
U.S. Department of Transportation
400 Seventh Street, S.W.
Nassif Building, Room PL-401
Washington, DC 20590-001

FAA-2004-18775-9

Re: [Docket No. FAA-2004-18775; Notice No. 04-11], RIN 2120-AI41

The Air Line Pilots Association, International (ALPA), representing the interests of over 64,000 pilots flying for 43 airlines in the United States and Canada, has reviewed the referenced NPRM. This NPRM will significantly improve the level of safety for flight deck automation functionality and its operational employment. ALPA applauds the FAA's efforts and hopes to see this finalized as soon as possible. We offer the comments below to be considered prior to final publication of the rule.

1. The proposed 25.1329 (c) contains the following definition: *"For purposes of this section, a minor transient is an abrupt change in the flight path of the airplane that would not significantly reduce airplane safety, and which involves flightcrew actions that are well within their capabilities involving a slight increase in flightcrew workload or some physical discomfort to passengers or cabin crew;"*

ALPA is concerned that this definition of 'minor transient' conveys that it is necessarily abrupt and that it does involve an increase in crew workload and that it does involve physical discomfort. These consequences should not be acceptable as a rule for the engagement, mode change, or disengagement of a modern FGS. Whereas the response might be 'abrupt' in terms of a short time constant to peak amplitude, hence discernable or noticeable to crew and perhaps passengers, the magnitude of the response should not increase workload or cause physical discomfort in most cases. The FGSHWG discussed variations in transient response that might differ from, for example, engagement or disengagement in non-maneuvering flight versus maneuvering flight. At one point, it was even suggested that we put value bounds on the 'minor transient' response of less than 0.5 g and pitch/roll/yaw rates of less than 10 degrees per second. Even though (c) and (d) do state "... must not cause ... any greater than a minor transient," ALPA believes it would help if the ensuing definition incorporated the same concept.

Recommendation: Change (c) to read "For the purposes of this section, a minor transient is *a response that produces no greater than* an abrupt change ..."

2. In the preamble, the table on Normal Conditions, Rare Normal Conditions, and Non-Normal Conditions (FR page 50246) shows that for Normal Conditions, the Icing section only lists Part 25 Appendix C icing conditions. However, the ARAC proposal and the ACJ 25.1329, Section 10.1,

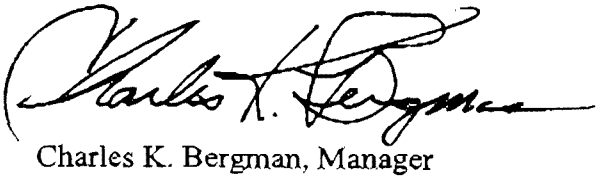
Normal Performance, states that the FGS should provide acceptable performance in a list of normal conditions that include "Icing, (trace, light and moderate)." This may possibly be a Significant Regulatory Difference (SRD) between the FAR and JAR, without referring to the AC or ACJ, which is only one means of compliance. The proposed rule language has reduced the stringency of the icing requirements under Normal Conditions from the ARAC and JAA versions. ALPA recognizes the dilemma with airworthiness certification of the basic airframe to Appendix C and the FGS to seemingly more strict criteria and we realized that at the time the airframe icing certification is done, the FGS may still be under development. However, we believe the intent of the safety community and ARAC effort was to require more analysis and compliance demonstrations for FGS intended for use in icing conditions than is current practice. The goal of the FAA Icing Steering Committee and the FAA Inflight Icing Plan was to increase the level of safety when icing conditions exceed Appendix C, including cases such as icing due to Supercooled Large Droplets (SLD). The Icing Plan and this NPRM Preamble acknowledge that in service experience, airplanes may encounter icing conditions exceeding Appendix C on a regular basis. The Icing Plan tasked ARAC to recommend acceptable compliance means in several areas, "regardless of whether the icing conditions are inside or outside of Appendix C," such as appropriate crew warnings. While additional information may be contained in the AC 25.1329X, the Rule needs to stand on its own and retain the concept that up to moderate icing is a normal and routine condition for transport operations.

Recommendation: In the table for "Normal Conditions – Icing:" add another sentence that conveys the concept that "Operationally, normal icing conditions include trace, light, and moderate icing levels."

3. Finally, ALPA notes that there are no current proposed changes to FAR 121.579. The terms of reference for the FGSHWG included tasking to recommend changes to FAR 121.579, "Minimum Altitudes for Use of Autopilot." This section needs to reflect today's FGS technology and the need to operationally exploit those capabilities. For example, there are many RNP RNAV approach concepts where use of the FGS to an altitude as low as possible would decrease FTE errors, the associated RNP values, and associated minima. These FGS concepts enhance safety, mitigate CFIT risks through stabilized approach functionality, and provide operational benefits. While we understand that including the 121.579 proposal would necessarily delay this current NPRM, we urge the FAA to take action to update FAR 121.579 as soon as possible.

Recommendation: The FAA should update FAR 121.579 as soon as possible using the ARAC FGSHWG proposed changes as a baseline.

Sincerely,



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CKB/kr