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Re: Docket FAA-2002-14002 - 39
*Notice of Proposed Rulemaking Area Navigation (RNAV)
And Miscellaneous Amendments*

ARINC Incorporated was established in 1929 by the aviation industry at the behest of the Federal Radio Commission to provide necessary communication services in support of air transportation. Today, ARINC is owned by U.S. and foreign airlines and other airspace users and is licensed by the FCC to operate more than 5,000 VHF and HF radio stations that, *inter alia*, provide the communications facilities required to meet 14 C.F.R § 121.99. As a consequence, ARINC hereby submits comments to assist the FAA in determining appropriate modifications, if any, to this regulation.

FAR Section 121.99 has long required air carriers to have “reliable and rapid” two-way communications between their aircraft and dispatch offices “under normal operating conditions” for all domestic operations and flag operations in the 48 conterminous States and the District of Columbia. After March 12, 2001 these requirements were extended to flag operations outside the 48 conterminous States and the District of Columbia. To meet this requirement in the 48 conterminous States, ARINC has established nationwide networks of interconnected VHF voice and data radio stations that enable aircraft to communicate with their dispatch offices and other ground operations for the safety and regularity of flight. ARINC has provided similar capabilities in areas of Hawaiian and Alaskan airspace utilized by commercial air transport aircraft. A number of these stations are staffed by ARINC radio operators, while others are staffed by the individual aircraft operating agencies. ARINC also operates HF stations that provide voice and data communications on over-ocean routes beyond the reach of normal VHF communications.

U.S. Department of Transportation
July 7, 2003
Page 2

Substantively, the FAA's proposal would change 14 C.F.R. § 121.99 in two respects. First, the FAA proposes, for the first time, to define "rapid communications" to mean that the communications between the aircraft and dispatch office must be established within four minutes, whether the call is initiated by the flight crew or the dispatcher. Second, the FAA specifies the requirement for communications under "non-normal and emergency operation conditions," and, furthermore, the FAA would require that such communications be by voice. ARINC does not believe that either of these changes are necessary.

A requirement that 100% of all communications be established within four minutes does not reflect any operational requirements and is unrealistic. The four-minute standard was taken from a 1977 hand-written "Speed Memo" from the Southern Regional Counsel, responding to an instance involving an air carrier operating in the 48 conterminous States that was staffing the ARINC stations and not using ARINC's voice or data networks. For this particular air carrier, one-third of the communications took thirteen minutes to establish, and two-thirds took longer than four minutes. Under the circumstances described, it certainly appears that communications were not established in a timely manner, however, there is insufficient operational information presented to support the Speed Memo conclusion establishing the four-minute standard. In most instances when operating in the conterminous 48 States, communications initiated by the flight crew contacting the airline dispatcher can be established in less than four minutes. Many communications initiated by the airline dispatcher contacting the flight crew operating within the 48 conterminous States can also be established within four minutes, especially if the aircraft is equipped with air/ground data link communications (either ACARS or VDL Mode 2). However, there will be times when the cockpit workload, radio operator workload, and aircraft equipment use will delay the establishment of a communications path initiated by the airline dispatcher beyond this period. The crew may be busy with other concerns, the radios may be in use communicating with ATC and other airline ground personnel, and the like.

The March 12, 2001 extension of the communications requirements of FAR 121.99 to routes outside of the 48 conterminous States and the District of Columbia emphasizes the need to consider operational requirements when considering the establishment of a time standard for "rapid communications." For operations within

U.S. Department of Transportation
July 7, 2003
Page 3

the 48 conterminous States, line-of-sight VHF radio communications can be used to meet the requirements of FAR 121.99. However, communications between aircraft operating in oceanic and remote airspace and their airline dispatch center usually requires the use of HF radio communications. Due to inherent differences in radio transmission characteristics, HF communications are often more difficult to establish and maintain than VHF communications, a fact that is recognized by the FAA and other air navigation service providers (ANSPs) when establishing the operational requirements for ATC communications in oceanic airspace. These operational requirements should be reviewed when considering whether to establish a time standard for "rapid communications."

For five decades ARINC has provided oceanic air traffic control communications services in the New York and Oakland Flight Information Regions (FIRs). The primary means used to provide these communications services is HF voice radio communications. To meet the operational requirements established by the FAA for these communications, ARINC must deliver 95% of ATC clearances within three minutes, 95% of ATC advisories within five minutes, and 90% of ATC requests within five minutes. It is important to note the proposed four-minute time standard for FAR 121.99 communications between aircraft and the airline dispatch office is more demanding than the operationally-derived time standards for oceanic ATC communications—a significant inconsistency.

Based on our experience as a provider of communications services used to meet the requirements of FAR 121.99, ARINC does not believe that there is an operational justification to define rapid communications more precisely than it is currently defined—especially given the March 2001 extension of the communications requirements of FAR 121.99 to flag operations outside of the 48 conterminous States.

The FAA also proposes to differentiate between communications during "normal operating conditions" and communications during "non-normal and emergency operation conditions." In both cases, the airline must ensure that two-way communications are available both between the aircraft and the airline dispatch office and between the aircraft and the ATC facility. Voice and data link communications would continue to meet the requirements of FAR 121.99 during

U.S. Department of Transportation

July 7, 2003

Page 4

normal operating conditions, as is the case today. The use of voice communications during normal operating conditions is well known. Data link communications have proven effective under those same conditions both for communications between the ATC facility (e.g., FANS I CPDLC in oceanic airspace, domestic CPDLC in the Miami FIR) and airline dispatch office (e.g., position reports, equipment and maintenance status and data, and other aircraft data and operational communications).

However, in revising FAR 121.99 the FAA is proposing that two way voice communication must be available between both the ATC facility and the airline dispatch office during "non normal or emergency operation conditions." As a provider of aviation safety communications, ARINC clearly recognizes the importance of voice communications during emergency operations and fully endorses the requirement for the airline to maintain two way *voice* communications with the ATC facility during non normal and emergency operation conditions. Furthermore, ARINC submits that the utilization of data communications for operational control should also be permitted during non-normal and emergency operations. The use of shorthand and pre-defined short communications is actually a more efficient, more expeditious, and more useful form of communication than relying simply upon voice communications. Additionally, data link communications allows the exchange of information (e.g., engine performance, maintenance reports, weather conditions, and remedial actions) that are difficult to impossible to convey using voice communications. Consequently, when the flight crew is dealing with an emergency, the ability to receive and send data communications, to the aircraft dispatch office will compliment the ability to have voice communications to the ATC facility directly involved in responding to the in-flight emergency. The global, seamless GLOBALink data link communications systems operated by ARINC (i.e., using VHF, HF, and Satellite communications capabilities), provide efficient and extremely reliable communications capability for a wide range of operational situations. As the world's most experienced aviation safety communications service provider, ARINC believes that each airline should be able to develop its own procedures for voice or for data communications and either form of communications should meet the operational control communications requirements of FAR 121.99 during routine, non normal and emergency conditions.

U.S. Department of Transportation
July 7, 2003
Page 5

RECOMMENDED ACTION: For the foregoing reasons, we recommend that the FAA delete the words "appropriate dispatch office and" from the penultimate sentence of proposed FAR 121.99 and delete the last sentence of the proposed rule altogether.

Very truly yours,

A handwritten signature in cursive script that reads "John L. Bartlett (msn)". The signature is written in black ink and is positioned above the printed name and title.

John L. Bartlett
Counsel to ARINC Incorporated