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**BEFORE THE
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C.**

DEPT. OF TRANSPORTATION
DOCKETS

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In the Matter of)
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AREA NAVIGATION (RNAV) AND)
MISCELLANEOUS AMENDMENTS)
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Docket FAA-2002-14002 - 38

COMMENTS OF UNITED PARCEL SERVICE CO.

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Dated: July 7, 2003

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COMMENTS OF UNITED PARCEL SERVICE CO.

United Parcel Service Co. (“UPS”) respectfully submits these Comments in response to the Federal Aviation Administration’s (the “Administration” or “FAA”) December 17, 2003, Notice of Proposed Rulemaking (“NPRM”) requesting public involvement regarding proposed amendments to its regulations necessary to reflect technological advances in communications and navigation. UPS recognizes that there are a great number of proposed amendments to the FAA’s rules identified in the NPRM. However, UPS will address only the proposed changes to 14 C.F.R. section 121.99, “Communications Facilities,” in its Comments below. Accordingly, UPS states as follows:

1. UPS is a Part 121 all-cargo direct air carrier that conducts worldwide air transportation of property and mail. UPS delivers 13.3 million domestic and international packages and documents for 7.9 million customers—daily. To facilitate this traffic volume, UPS has built from the ground the tenth largest airline in the U.S., operating more than 1,800 flight segments per day in more than 700 domestic and international airports. UPS operates more than

600 aircraft to serve more than 200 countries and territories worldwide. Over 300 of these planes are large jet aircraft, owned and maintained by, and registered to, UPS. Most important to the instant proceeding, UPS is the largest civil aviation user of High Frequency Data Link (“HFDL”) technology.

2. Currently, FAA Rule 121.99(a) reads as follow:

Each certificate holder conducting domestic or flag operations must show that a two-way radio communication system or other means of communication approved by the Administrator is available at points that will ensure reliable and rapid communication, under normal operating conditions over the entire route (either direct or via approved point-to-point circuits) between each airplane and the appropriate dispatch office, and between each airplane and the appropriate air traffic control unit, except as specified as § 121.351(c).

In the NPRM, the Administration has proposed to change a number of its rules, including Rule 121.99(a). The proposed amendments to the existing rule are identified below:

Each certificate holder conducting domestic or flag operations must show that a two-way radio communication system, or other means of communication approved by the ~~Administrator~~ FAA, is available over the entire route under normal operating conditions. The communications may be direct links or via an approved communications link that will provide reliable and rapid communication under normal operating conditions ~~over the entire route (either direct or via approved point to point circuits)~~ between each airplane and the appropriate dispatch office, and between each airplane and the appropriate air traffic control unit, except as specified as § 121.351(c). For non-normal and emergency conditions, the communication system for use between each airplane and the appropriate dispatch office and between each airplane and the appropriate ATC unit must have two-way voice communication capability. For the purpose of communication between the airplane and the dispatch office under this section, the term “rapid communications” means that the caller must be able to

establish communications with the called party in less than four minutes.

3. On its face, it may appear that these changes are administrative in nature, merely clarifying the existing rule and its interpretation by the FAA. This, however, is not the case. In fact, the amended rule requires the addition of one or two two-way satellite voice radios to the cockpits of UPS' existing fleet (at a cost of millions of dollars) and it imposes an objective 4-minute contact requirement between an airplane and the carrier's dispatch office otherwise known as an airplane operations center ("AOC"). The proposed 4-minute contact rule is a communications requirement that does not now exist except as an unpublished interpretation of an obscure hand-written memorandum from the legal files of an FAA regional office.

4. UPS does not support the proposed amendments to Rule 121.99 because they are unwarranted and lack sufficient evidentiary foundation. As such, the proposed amendments may border on arbitrary and capricious changes to existing regulations. The only empirical data on which the proposed changes appear to be based is a 25-year old memorandum interpreting a version of the instant regulation which, at that time, applied to only domestic U.S. operations. Clearly, the nature of global aviation, and the technologies that support it, have changed significantly since the drafting of the 1977 memorandum. UPS believes that further research and evaluation is necessary before any changes may be made to Rule 121.99.

5. Aside from the impracticality of the proposed AOC voice requirements, the addition of a 4-minute contact rule likely presents an impossible regulatory standard. Certain factors make the four-minute contact requirement impractical from an operational point of view.

The justification states that there is no cost associated because the aircraft are already equipped with voice radios. Although aircraft are equipped, much of the world lacks the ground infrastructure (radios, telephone line, etc.) to support global connectivity in all areas. Aircraft are equipped with different types of communication radios, appropriate to the region of operations. Typically, two systems of a given type are installed for redundancy. For instance, in an oceanic region, the crew must monitor a high frequency ("HF") ATC frequency. If an aircraft uses HF DL for primary AOC communications, it cannot monitor a third HF voice channel simultaneously.

6. For instance, if an aircraft uses HF DL for primary AOC communications, it cannot monitor a third HF long distance operational control ("LDOC") voice channel simultaneously. In most cases, Part 121 carriers are now required to monitor 121.5 MHz (VHF Guard) on the one VHF radio, in addition to ATC on another VHF radio in VHF radio coverage areas. If the rule changes as proposed, a dispatcher will have to contact a flight via data link first, then the crew must switch over to voice and return the call to dispatch. From a transmission time and cockpit workload perspective, a 4-minute requirement for such an action could prove difficult, if not impossible.

7. Although limited in its geographic scope, UPS owns and operates one of the world's largest AOC VHF voice networks. Known commercially as the *JetComm Network*, this system provides AOC voice communications coverage throughout most of North America, as well as limited parts of Europe, Asia, the Pacific and the Caribbean. UPS also uses a number of external communications service providers who offer additional AOC voice communications coverage via HF radio. The decision by UPS and other commercial carriers to provide voice

communications capability between the dispatch office and an aircraft on a given route or particular aircraft type is based upon an analysis of the length and geography of the planned routing and the aircrew's ability to operate safely and communicate and navigate effectively along that route. There is no basis for such a decision to be mandated by regulation.

8. Options for AOC voice coverage are particularly limited in polar and near-polar regions which typically have the worst HF propagation (due to geomagnetic storms and auroral activity). On the other hand, HF DL networks are specifically designed to compensate for poor polar HF propagation and provide reliability that is not achievable by HF voice systems. Further, INMARSAT (the satellite operator used by all U.S. carriers) does not cover the polar regions. As such, the only high-reliability AOC voice coverage option over polar regions is Iridium. Bottom line--there is not a single U.S. carrier that today could have reliable AOC voice communications in the polar regions under a four-minute standard. Accordingly, the proposed rule change is a mandate for aircraft owners to purchase satellite voice communications equipment.

9. While AOC voice communications may provide certain operational benefits to the air carrier, there is no evidence of any safety benefit of voice over data communications when establishing the link between the aircraft and dispatch. The FAA asserts that "reliance on data link communications alone during an emergency could cause an unsafe condition."¹ This assertion is overly broad and unsupported by empirical evidence. UPS might agree with this

¹ See NPRM, at p.36.

assertion if it were aimed at the link between the aircraft and air traffic control (“ATC”), but the link between the aircraft and dispatch is less critical during an emergency situation.

10. Currently voice communications capability with ATC is required. In an emergency situation, ATC is the primary contact. ATC can provide assistance in the form of revised routes to alternate destinations, separation from nearby aircraft and coordination of emergency equipment and services. None of this assistance can be efficiently provided by the company dispatch office. Airlines establish emergency procedures and crews train in their execution to avoid the necessity of communication and the attendant possibility for error. ATC communication is important in an emergency situation to allocate available resources and mitigate traffic effects. ATC communications are time sensitive because they involve real time control of air traffic. Delays could result in reduced separation between aircraft. ATC communications assure the safe and efficient operation of aircraft within the airspace. Particularly in an emergency situation, AOC communications are given a lower priority than ATC communications.

11. Unfortunately, VHF AOC voice communication service is not available over most of the world or in many areas over which commercial carriers conduct flights. More importantly, in many regions, there is no longer any HF AOC voice service provider. The economic realities of the HF AOC voice service business are driving many service providers to close their doors. By contrast, HF DL coverage is growing. As a result, the only option for voice communications in many locations has become satellite voice communication, and this trend is likely to continue as more HF voice providers cease providing this service. Thus, in order for UPS to continue to

conduct flights over many regions, the proposed AOC voice requirement would appear to be, in fact, a satellite voice communications requirement.

12. The economic impact of being forced to acquire a satellite voice communications system is immense. Aggravating such an imposition, cargo carriers cannot offset such a capital expense because, unlike their passenger carrier counterparts, there is not a market for an ancillary satellite telephone service on cargo flights.

13. The proposed requirement for communications availability "over the entire route" does not provide flexibility but, in fact imposes limits and enormous burdens on an operator. The current wording of Rule 121.99 recognizes that long range communications capability and quality is dependent upon local environmental conditions existing at and between the aircraft and the intended point of communication. Defining specific points along the route allows those conditions to be considered when selecting appropriate radio channels to be monitored. Successful communication requires the calling and called equipment to be selected to the same channel. A strict interpretation of the requirement presently could force the operator to add a satellite voice communications system.

14. It must be taken into account that the satellite systems too have limitations. For example, there is no satellite coverage at latitudes greater than about eighty degrees. In these areas, satisfying the requirement for continuous AOC voice communication could be a practical impossibility. Further, although satellite telephone systems have been around for some time, they are complex and cannot meet the four-minute rule 100% of the time. In addition to

hardware failures, there are some solar-terrestrial conditions (admittedly somewhat rare) that can cause outages. Additionally, satellite systems have an inherent single point of failure problem, either because of a problem with the satellite itself, or a problem with the operator of the satellite.

15. The FAA must consider the attributes of HFDL communications in any analysis preceding a change to the Rule 121.99. In many cases, HFDL communication is faster and easier than voice communications due to the pre-formatted messages. For common occurrences such as diversions the crew might only make a menu selection and type the four-letter destination identifier (e.g. KSDF). At the Data Link User's Forum held in February of 2003, ARINC reported that 95% of messages were completed in less than 120 seconds. Studies have shown that HF voice communication contacts in remote areas can require four (4) minutes to as much as twenty (20) minutes to accomplish. Practical experience indicates that a four (4) minute requirement will be unrealistic in many remote and over water communication scenarios. In these cases, HFDL communications are decidedly superior to voice communications.

16. In the "Benefits and Costs" section of the NPRM, the FAA fails to address the costs to be borne by the aircraft owners in the event of the new rule.² This omission reveals an incomplete understanding of the consequences of the changes being proposed. In the regulatory impact analysis, the FAA states that there is no cost to aircraft operators because they already have voice radios on the planes. This might indicate that ATC has been confused with AOC. Further, the omission also completely ignores the fact that there has to exist an infrastructure on

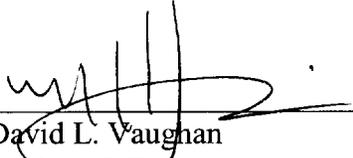
² See NPRM at p. 52-54.

the ground as well as in the air, and in much of the world, there is not a corresponding build out. As such, under the proposed rule, the operational options are limited to either expecting someone to bear the capital expense of installing such equipment, or not flying routes over or near the unserved areas.

17. Recommendations. In its Comments, Air Transport Association recommends that an in-depth study be conducted by the Terminal Area Operations Aviation Rulemaking Committee (“TAOARC”). UPS believes that a study by a government-industry working group is imperative to determining whether the proposed changes to Rule 121.99 are appropriate and whether there may be other amendments that would be more beneficial to the balance of safety and operations within the industry. However, UPS is concerned that under TAOARC’s charter, it is generally limited to airspace issues regarding arrival, departure, and airport ground operations. Rule 121.99 addresses an issue that is germane primarily to en route communications. If TAOARC is the best entity to study and address prospective changes to Rule 121.99, UPS asks only that TAOARC ensure that it brings to the table experts and analysis regarding en route communications.

WHEREFORE, United Parcel Service Co. respectfully requests that the Administrator consider with favor the above comments in the instant rulemaking proceeding, and accord such other relief as may be consistent with the public interest.

Respectfully submitted,



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CERTIFICATE OF SERVICE

I hereby certify that on this 7th day of July 2003, a copy of the foregoing Comments of United Parcel Service Co. was sent, via first-class mail, postage prepaid to the following:

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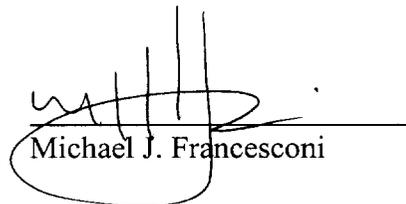
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