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**Comments regarding Notice of proposed rulemaking (NPRM) .
Collision Avoidance Systems**

To Whom It May Concern:

This commenter is a party with a vested interest in this NPRM both as a member of the aviation community and a member of the traveling public.

I fully support the FAA's effort to rectify a long-standing oversight in the Collision Avoidance of air traffic. I would like to suggest though that you consider the following points in your final rule.

Timeline:

When congress initially drafted legislation to make a Collision Avoidance System mandatory for **all** aircraft with 10 or more passenger seats, or weighing more than 33,000 pounds, a compliance date of Jan 1, 2000 was chosen. Unfortunately due to political reasons the bill was delayed and when it **finally** became law, the compliance date **was** changed to Jan 1, 2003. This date happens to also coincide with the date for mandatory equipage in several ICAO states. We feel that this **is** a realistic compliance date, **as** the hardware is readily available, most aircraft have already approved TSO for the installation and many more are already prewired for TCAS 11. Even when that was not the case, a major cargo carrier was able to design, receive approval **and** install TCAS II in several aircraft that were to be used **as** passenger carriers in less than 9 months after the decision was made to convert those aircraft. Thus it is our opinion, that an effective date of Jan 1, 2003, **as** envisioned by congress, is realistic. The FAA might consider **an** extension to the date of October 1, 2003 if an operator could prove extenuating circumstances. There is no reason not to realize the benefits of this regulation as soon **as** possible, considering that in some cases the operators could comply by simply sliding the TCAS equipment into a rack on aircraft already prewired for TCAS 11.

Alternative Technology (ADS-B):

I fully support the FAA's intent to look forward and embrace new technologies when they become available. We are not opposed to the development and future application of **ADS-B**, it **has** some very exciting potential applications, such **as** runway incursion avoidance, close parallel approaches and more. However, it can and must not be used **as** the "last bubble of safety" in Collision Avoidance. We must not have the **all** three elements of CNS (Communication, Navigation, Surveillance) with a single point of failure such **as** the loss of the GPS signal, or of the onboard GPS receiver. After the horrible events of September 11, we also must guard against the real threat of a willful and malicious **jamming** of the extremely weak GPS signal by hostile individuals or entities. Such jamming equipment is available readily on the black Market and **will** render GPS and **thus ADS-B** inoperable for up to a hundred **miles** from the jammer's location. Furthermore ADS-B based Collision Avoidance would utilize ground based radar processed data in order to "see" Mode C transponders (**TIS-B**). This would only be available in less than **50%** of the US surface area served by these radars and not be available outside of the US at all. Just when Collision Avoidance becomes even more critical, when radar is inoperative, **a big** part of potential threats will not be avoided. For these reasons alone, a Collision Avoidance System based on ADS-B is not possible. We therefore support only a Collision Avoidance System that is based on TCAS 11, but are not opposed to an enhanced unit that uses **ADS-B** to improve range and resolution. The last line of defense must remain with the proven, independent of ground or space based resources, TCAS 11. Thus any possible pleas to extend the compliance date to "develop alternative technology" should be rejected.

Sincerely submitted by:

A handwritten signature in black ink that reads "Ed Paha". The signature is fluid and cursive, with a long horizontal stroke at the end.

Ed Paha
First Officer, United Parcel Service