U.S. Department
of Transportation
**Federal Aviation
Administration**

Small Airplane Directorate
901 Locust
Kansas City, MO 64106

Exemption No. 9920
Regulatory Docket No. FAA-2009-0259

Mr. Kim Hackett
ODA Administrator, ODA-100129-CE
Cessna Aircraft Company
One Cessna Boulevard
Post Office Box 7704
Wichita, KS 67277

Dear Mr. Hackett,

This letter is to inform you that we have granted your request for exemption. It transmits our decision, explains its basis, and gives you the conditions and limitations of the exemption.

The Basis for Our Decision

By letter dated March 10, 2009, you petitioned the Federal Aviation Administration (FAA) on behalf of Cessna Aircraft Company for an exemption from § 23.181(b) of Title 14, Code of Federal Regulations (14 CFR) to the extent necessary to allow Cessna to certify the Cessna Model 525C at a reduced level of dynamic lateral-directional stability after a yaw damper system failure.

The FAA has determined that good cause exists for not publishing a summary of the petition in the FEDERAL REGISTER because the requested exemption would not set a precedent, and any delay in acting on this petition would be detrimental to Cessna.

The FAA has issued grants of exemption in circumstances similar in all material respects to those presented in your petition. In Grant of Exemption No. 8323 (copy enclosed), the FAA found that, in the case of Dutch Roll, some existing aircraft meet Dutch Roll damping requirements at low altitude and low speed but not at high altitude and high speed. This is the situation with the Cessna Model 525C. In these cases, the FAA has allowed continued flight following a yaw damper failure provided the airplane is controllable and can safely transition to a reduced flight envelope in which Dutch Roll damping requirements are met.

Regarding public interest, we believe that granting the exemption is in the public interest. To require the airframe to be modified to inherently provide the required damping would result in a much larger airplane that would not be as fuel efficient as a design that was optimized for the high altitude, high speed environment. To require a less efficient design when the necessary level of safety can otherwise be provided is not in the public interest. Likewise, to require a more complex and expensive yaw damper system design is not in the public interest.

Having reviewed your reasons for requesting an exemption, I find that—

- They do not differ materially from those presented by the petitioners in the enclosed grants of exemption;
- The reasons stated by the FAA for granting the enclosed exemptions also apply to the situation you present; and
- A grant of exemption is in the public interest.

Our Decision

Under the authority contained in 49 U.S.C. 40113 and 44701, as amended, which the FAA Administrator has delegated to me, I hereby grant Cessna Aircraft Company an exemption from 14 CFR § 23.181(b) to the extent necessary to permit type certification of the Model 525C airplane, subject to the conditions and limits described below.

Conditions and Limitations

1. Except for takeoff and landing, any combined lateral-directional oscillations ("Dutch roll") occurring between 1.2VS and the maximum allowable speed appropriate to the configuration of the airplane must be damped to 1/10 amplitude in (1) 7 cycles at or below 18,000 feet, and (2) damped to 1/10 amplitude in 13 cycles above 18,000 feet with the primary controls -- (1) free, and (2) in a fixed position.

2. Include in the Airplane Flight Manual that aircraft dispatch is prohibited if the yaw damper is inoperable.

3. The yaw damper must be engaged for all flight phases, excluding takeoff and landing (to prevent interference with controllability in crosswinds). The procedure to guarantee safe flight must be published in the Airplane Flight Manual.

4. In the event of in-flight yaw damper failure, the aircraft must descend to 25,000 feet or below. This procedure must be published in the Airplane Flight Manual.

Issued in Kansas City, Missouri on August 19, 2009.

Sincerely,

Kim Smith
Manager, Small Airplane Directorate
Aircraft Certification Service