

**DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration**

Large Agricultural Restricted Category Airplane Certification Topics

AGENCY: Federal Aviation Administration (FAA), DOT

ACTION: Notice, request for comment.

The FAA is seeking public comment on this proposal. The FAA has published in the Federal Register a notice of availability and request for public comments on this subject. Please include the words “Large Agricultural Restricted Category Airplane Certification Topics” in the subject line of your comments on this proposal. To help us to assemble and collectively respond to public comments, if you submit comments electronically, please include a text message version of your comments if you submit a PDF file. You may electronically submit your comments on this proposal to the following e-mail address: 9-awa-avr-air-policycomments@faa.gov.

SUMMARY: This notice requests comments on, three particular topics concerning certification criteria for three different large airplane design proposals for restricted category aircraft to be used for agricultural and firefighting missions.

- (1) The manufacturer requests FAA approval to certify the airplane to all appropriate airworthiness requirements at a baseline weight that is a fraction of the maximum certificated takeoff weight of the airplane. The manufacturer proposes to certify the airplane to Part 23 requirements, and to operate at reduced speed and load factors when operating heavier than the baseline weight. The FAA is not accepting the proposal to permit operational limits for routine use of overweight approvals. However, the FAA believes the applicant’s proposed limit maneuver load factor at the maximum certificated takeoff weight is acceptable for the large airplane agricultural special purpose operation, when the airplane is certificated to damage tolerance evaluation criteria with an appropriately severe usage spectrum.
- (2) The manufacturer proposes that a single engine airplane is safer than multiple engines for a large restricted category agricultural and firefighting airplane. Considering the nature of agricultural aircraft operations, we at the FAA request data and comments from the agricultural aircraft industry on airplane operating practices as they might affect the consequences of a propulsion system failure. Since the proposed aircraft will be used for forest firefighting, we also request comments from that group.
- (3) The manufacturer is proposing a 36,000 pound twin engine airplane design for the agricultural and firefighting missions. The FAA and the manufacturer have worked to develop a certification basis that primarily consists of part 23 airworthiness standards, with many part 25 requirements primarily for the certification of the aircraft

structures. The FAA believes that this is appropriate for a large airplane that will not be used for carrying passengers or cargo. This notice states how you may find the proposed certification basis, and gives all interested persons an opportunity to comment on the proposal.

DATES: Submit comments on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]

ADDRESS: Send all comments on this proposal to: Federal Aviation Administration, Aircraft Certification Service, Aircraft Engineering Division, Room 815, 800 Independence Avenue, SW., Washington, DC 20591, ATTN: Steve Flanagan, AIR-110. Or, deliver comments to: Federal Aviation Administration, Room 815, 800 Independence Ave, SW, Washington, DC 20591. You may also send comments electronically to the following Internet address: 9-awa-avr-air-policycomments@faa.gov.

FOR FURTHER INFORMATION CONTACT: Mr. Steve Flanagan, Certification Procedures Branch, AIR-110, Aircraft Engineering Division, Aircraft Certification Service, Federal Aviation Administration, 800 Independence Avenue, SW., Room 815 Washington, DC 20591, telephone (202) 267-3549; fax (202) 267-5340; E-mail: steve.flanagan@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

You are invited to comment on the proposal by submitting written data, views, or arguments to the address above. You may examine comments received on the proposal before and after the closing date, in Room 815, FAA Headquarters Building (FOB-10A), 800 Independence Avenue, SW., Washington, DC 20591, weekdays except Federal holidays, between 8:30 a.m. and 4:30 p.m. The Director of Aircraft Certification Service will consider all communications received on or before the closing date.

Background

Restricted Category Background

Restricted category approvals date back to 1945 as an option to normal category approvals for small airplanes and small rotorcraft. When Part 8 of the Civil Aeronautics Regulations (CARs) was adopted on August 12, 1950, references to restricted category certification procedural rules were removed from the airworthiness standards in CARs part 03 (small aircraft) and part 06 (rotorcraft). The rules, and the advisory and guidance material for restricted category were combined in the single document Civil Aeronautics Manual (CAM) 8 “Aircraft Airworthiness – Restricted Category”. CAM documents provided in a single place both the rules and the advisory material for compliance with those rules. CAM 8 provided mostly advisory material that was judged consistent with the minimal procedural regulations for obtaining a restricted category type certificate. CAM 8 policy was the first identification of the special purpose operations that are now listed in 14 CFR § 21.25(b). These special purpose operations included several different

agricultural missions, plus forest and wildlife conservation. The aerial firefighting mission is one that is considered as forest and wildlife conservation. CAM 8 advisory material in Appendix A described acceptable simplified modifications for small aircraft conducting agricultural special purpose operations. Appendix B of CAM 8 provided advisory material for certification criteria for type certificates or changes to type certificates for small aircraft in the restricted category. The restricted category approval process was intended to justify a different level of certitude and of safety when modifying aircraft for special purpose operations, as contrasted to aircraft intended to carry passengers or cargo. This flexibility worked in two ways. “A different level of certitude” permitted the applicant to use simplified methods of compliance to demonstrate the integrity of the proposed modification. “A different level of safety” permitted the applicant to work with the FAA to identify certain airworthiness standards appropriate for the small aircraft as inappropriate for the special purpose operation. When restricted category was originally in the airworthiness standards for small airplanes and rotorcraft, an airworthiness standard would be judged inappropriate if it made the aircraft incapable of conducting the intended special purpose operation. With the adoption of CAR part 8, the criteria for determining an inappropriate airworthiness standard was broadened. It now included economic burden and unduly restrictive requirements for aircraft that neither carried passengers nor operated outside of rural, sparsely populated areas.

Current Restricted Category Policy

Much of our current policy on restricted category aircraft type certification procedures is published in paragraph 6-1 of FAA Order 8110.4B, Type Certification, dated April 24, 2000. Over time, this order has consolidated policy from a number of different sources and dates. For example, Order 8110.4B paragraph 6-1.b includes procedural information from FAA Action Notice A8110.22, dated August 16, 1990. Also, paragraph 6-1.b.(4) of Order 8110.4B states the limitation of CAM 8 advisory material to previously certificated small agricultural airplanes with a certification basis of CAR part 8. This policy was originally published in Advisory Circular (AC) 20-33B on May 1, 1975.

The procedure to determine airworthiness requirements that are inappropriate for the restricted category special purpose operation is stated in paragraph 6-1.b.(2) of Order 8110.4B. Paragraph 6-1.b.(3) gives the different reasons for a restricted category type certificate’s variance from the airworthiness standards which are the basis for a standard airworthiness certificate. These two paragraphs were the guidance for the procedures the FAA and the applicant used to develop these proposals.

Current Agricultural Airplane Policy

Our most recent review of agricultural aircraft certification and operations was a joint government and agricultural aviation industry study team from 1993 - 1998. The team developed guidance material that standardized methods of compliance for small airplanes with restricted category type certificates that are used for agricultural aviation operations. This effort gave us significant agricultural aviation experience in the Small Airplane Directorate. This team’s effort was unsuccessful in resolving the issue of permitting agricultural aircraft operations at weights in excess of 12,500 pounds. The team’s work resulted in AC 21.25-1, Issuance of Type Certificate: Restricted Category Airplanes,

dated December 1, 1997. At the same time the Small Airplane Directorate issued to FAA offices a policy memorandum dated December 1, 1997, that clarified for these aircraft acceptable methods of compliance for certain airworthiness standards in 14 CFR part 23 as they might be used for small agricultural airplane restricted category type certification programs.

(1) Overweight Operations At Weights Exceeding Small Airplane Weight Limit of 12,500 Pounds

A manufacturer had proposed to the FAA on October 29, 2002 that his restricted category agricultural airplane design satisfy part 23 structure certification requirements at a baseline weight of 12,500 pounds, and be approved for operation at a weight not to exceed 19,000 pounds, provided that the airplane shows positive static strength margins at an airplane limit load factor of no less than 2.5g. This proposal was consistent with FAA criteria developed for a previous agricultural airplane design in 1992. The manufacturer contends that the engineering principles that were the basis for the advisory material in Appendix A of CAM 8 are valid for permitting operation at weights in excess of the weight limit for which the airplane is originally certificated.

In considering the manufacturer's proposal, the FAA has reiterated its position as stated in AC 20-33B that CAM 8 advisory and regulatory material are limited to aircraft that were originally certificated to CAR part 8. Also, FAA believes that the advisory material in Appendix A and Appendix B of CAM 8 was based on an assumption that the aircraft was designed to utility category requirements. Evidence of this is seen in the discussion in CAM 8 paragraph 7.1 "General Effects of Gross Weight Changes" in Appendix A "Restricted Category Aircraft Modifications" of CAM 8 (+4.4g limit load factor), and in paragraph .211 "Flight Load Factors" in Appendix B "Airworthiness Criteria for Agricultural and Similar Special Purpose Aircraft" of CAM 8 (+4.2g limit load factor). The FAA also believes the maneuvers that characterize the definition of utility category in §23.3(b)(1) and (2) can be considered as appropriate for the aerial application mission. Finally, FAA has expressed its concern that structural failures resulting from aircraft fatigue are evidence that the maneuver loads of restricted category operations require additional static strength structural margins (compared to normal air transportation operations) to provide stress levels that do not cause fast fatigue crack growth following initiation of a crack.

Review of Agricultural Aircraft Accident Data

FAA reviewed the National Transportation Safety Board (NTSB) online aircraft accident database for fatal agricultural (part 137 operations) airplane accidents occurring from 1988 to summer 2003. The review found seven airplane inflight structural failures. One of the seven accidents was not attributed to fatigue, but to a tensile overload failure of the wing. One of the accidents was attributed to a fatigue failure initiated by a modification made to the airplane in service. The other five accidents were attributed to inflight wing failure from fatigue. The seven accidents were among six different agricultural airplane models.

Appropriate Limit Maneuver Load Factor Criteria for Type Certificated Large Airplane Restricted Category Airplanes

The manufacturer responded to FAA with data showing that for agricultural airplane operations, internal strains do not develop simultaneously with the occurrence of peak load factors. The FAA's original intention by imposing the utility category limit maneuver load factor of +4.4g for this large airplane was to address potential airplane fatigue problems by reducing the internal structural stress levels. This was intended to provide a static strength margin thought to be appropriate for simplified fatigue analyses for restricted category type certificated airplanes. The manufacturer has agreed that +2.5g as a limit maneuver load factor does not adequately represent the severity of the agricultural airplane special purpose operation. Instead, the manufacturer has proposed to certify the airplane to all the requirements in its certification basis at a baseline weight of 75% of the maximum certificated takeoff weight, with certification to limit maneuver load factors of +4.4g at the baseline weight, or +3.3g at the maximum certificated takeoff weight. Also, the manufacturer has proposed that the airplane fatigue analysis will be based on damage tolerance analysis rather than the safe life approach used for previous small agricultural airplanes. The damage tolerance analysis will reflect actual airplane usage and internal stress levels. FAA also may compare this with existing gust and maneuver acceleration data for agricultural airplane operations (*DOT/FAA/CT-91/20, "General Aviation Aircraft – Normal Acceleration Data Analysis and Collection Project", February 1993*). The FAA will require that the damage tolerance analysis be supported by test evidence, as called for in §23.572(a)(3) and §23.573(b). In this way, the FAA's concerns about fatigue will be more directly addressed.

The manufacturer also provided data showing that requiring a +4.4g limit maneuver load factor on the proposed 19,000 pound maximum flying weight airplane would result in such marginal payload performance over its existing 16,000 pound airplane that the new airplane project would not be feasible.

The FAA agrees that requiring a +4.4g limit maneuver load factor for a large airplane imposes a severe and conservative structural design limit, absent conclusive data that such a high limit load is consistent with the expected frequency of occurrence of this load level in agricultural special purpose operations. For small agricultural airplanes, as stated previously, FAA believes that the +4.4g limit maneuver load factor is justifiable in light of the difference between the small airplane "normal category" operations, and what is known about small airplane agricultural airplane loads. As discussed above concerning FAA's reasons for consideration of small airplane utility category limit maneuver load factor requirements, the design of a small agricultural airplane to a limit maneuver load factor of +4.4g would permit its certification with a fatigue analysis that is more typical of current experience and practice for showing compliance with the fatigue strength or fail-safe strength investigations permitted by §23.572(a)(1) or (a)(2).

The FAA also reiterates its position that the operational overweight approval procedures that were published in CAM 8 advisory material are not appropriate for use in modern agricultural airplanes. The FAA believes that the controlling variable of "pilot feel" during the overweight operation is defective, because the pilot senses a vertical force N_Z based on the pilot's own weight, and is not cognizant of the airplane vertical force $N_Z * W$, which the airplane wing loads apply to the wing root structure. The inadequacy of this subjective control system is magnified for a large airplane.

However, the FAA agrees that the combination of a more detailed and exact fatigue analysis of the large airplane at its proposed operating weights and usage, combined with

a limit maneuver load factor of +3.3g at the maximum weight, provides adequate structural design criteria for this large restricted category agricultural airplane. The FAA believes that this criteria is acceptable based upon service experience and a review of fatigue spectrum data for other large airplanes used in fire fighting operations (*NASA Technical Memorandum 84660, "Tabulations of Recorded Gust and Maneuver Accelerations and Derived Gust Velocities for Airplanes in the NASA VGH General Aviation Program", September 1983*). The FAA is not aware of any data concerning service experience of large airplanes conducting agricultural aviation operations. If the fatigue design criteria for this airplane forces the airplane weight above 19,000 pounds, the applicant may use the design criteria being established for the larger twin-engine airplane described in the third section of this document. If that should happen, the FAA will review that proposal to adjust for a single-engine airplane.

(2) Considerations for a Large, Single Engine Aircraft

While the FAA and the manufacturer were developing the certification basis proposal for the large twin-engine firefighting aircraft in section (3) of this document, the manufacturer requested that we consider its position that a safer large agricultural airplane design would have a single rather than multiple engines. The manufacturer has requested this for the 19,000 pound airplane design described in the previous section of this document. When asked for an upper weight limit for a single engine large restricted category airplane, the manufacturer considers that current turboprop engine and propeller technology makes a 30,000 pound single engine turboprop agricultural airplane feasible. The manufacturer contends that the agricultural airplane mission is almost always at low altitude, and very often at low speed. This differs from typical air transportation airplanes, where the design criteria for small airplanes addressing directional and lateral control following an in-flight engine failure as stated in §23.147(a) and (b) provides a level of protection from the effects of an engine failure. More specifically, because of the low altitude of the agricultural airplane mission, the two-second pilot response delay and 45 degree bank angle excursion that is permitted by the regulations would likely result in the loss of the airplane. The requirements for transport category large airplanes in §25.147(a) are not appropriate for the agricultural airplane special purpose because the $1.4 V_{S1}$ criteria is inconsistent with the slow speed needed for effective aerial application or dispensing operations. In typical airplane operations, V_{MC} is a minimum speed intended to assure that the airplane is flying fast enough during takeoff or landing for the airplane vertical stabilizer/rudder to overcome asymmetric thrust effects, and to be controllable in event of the failure of one engine. These requirements are not designed to address safe low speed flight during the cruise phase of flight. Also, §23.149(d) requires determination of V_{SSE} , a minimum speed to safely make the critical engine inoperative. For safety, V_{MC} must be greater V_S and V_{SSE} . The agricultural special purpose operation requires slow speeds to remain over the fields being dusted. Slow speeds, low altitudes, and significant weight changes during the dispensing operation combine to make the agricultural special purpose operation a unique situation for the design of engine failure for a twin engine airplane.

The manufacturer also contends that the increased reliability of turboprop compared to piston powerplants is an incremental safety benefit compared to the service experience that was current when the demarcation between small and large airplanes was established

in 1953 at 12,500 pounds. FAA has noted the increased reliability and safety of turboprop powered agricultural aircraft in previous safety studies. In part, we believe that this is a result of our policy requiring type certificated turbine engines for restricted category aircraft. However, FAA acknowledges that a large single engine aircraft may expose persons and property on the ground to a new risk that may not totally be controlled by the use of restricted category operating limitations. We believe that, with adequate crashworthiness features, the agricultural airplane cockpit design can protect the flight crew in event of an engine failure. The FAA accepts that for en-route flight operations, aircraft altitude would permit the pilot to avoid persons and property on the ground in event of failure of the single engine. FAA is concerned that should the engine failure occur during takeoff or landing, the pilot would not have enough time or altitude to avoid persons or property on the ground adjacent to the airport boundary. FAA believes that the controls provided by operating limitations on restricted category aircraft in §91.313(e) will minimize this risk to the public.

Balancing Levels of Safety for Public and Flight Crew

We see merit in the manufacturer's argument for the unique features of the agricultural airplane mission profile. A safety analysis that assumes an engine failure for a twin engine agricultural aerial application airplane would conclude that for the flight crew, two engines would not provide the intended safety benefits of multiple engines if the engine failure occurred during the dispensing operation. The safety benefits of neither V_{MC} (minimum control airspeed) nor V_{SSE} , (in §23.149(d)) would be effective during the following phases of flight: low-speed approach to the dispensing operation; dispensing operation itself; and pull-up from dispensing. If engine failure occurred during dispensing, there would be little risk to persons and property on the ground, since the airplane is operating over the customer's property. So, given an engine failure during these particular flight phases, a second engine is potentially hazardous to the flight crew, and is irrelevant to safety of persons and property on the ground, because the operations are over sparsely populated areas. However, if an engine fails during the other flight phases (takeoff, climb, enroute cruise, approach, and landing), a second engine is a safety benefit to both the flight crew and persons on the ground.

We believe the same potential incremental engine failure hazard considerations apply for the aerial firefighting mission profile. The FAA notes from a review of data that there are similar operating speed and altitude profiles for aerial firefighting conducted as forest preservation per §21.25(b)(2) or §137.3 as for agricultural aerial application missions (*NASA Technical Memorandum 89074, "Flight Duration, Airspeed Practices, and Altitude Management of Airplanes Involved in the NASA VGH General Aviation Program", August 1987*). FAA notes the concern expressed for multi-engine reliability and performance in the recent Blue Ribbon Panel Report to the Chief U.S. Department of Agriculture Forest Service and Director, U.S. Department of Interior Bureau of Land Management on firefighting aircraft ("*Federal Aerial Firefighting: Assessing Safety and Effectiveness*", December 2002). At present, the FAA believes that this concern is for the on-scene lead plane mission, rather than the air tanker airplane.

Request for Comment from Interested Persons Concerning a Large Single Engine Restricted Category Agricultural/Aerial Firefighting Airplane

The FAA wants information from interested people concerning this proposal for large single engine restricted category airplanes. By this notice, we are also asking for comment from a wider audience. We do not want to approve a large single engine agricultural airplane design unless the concept provides a safety benefit to the flight crew at minimal additional risk to the public on the ground. (For the large single engine restricted category airplane, we believe that protecting the public would result from adhering to the requirements of §91.313(e) and §137.51(b)(4).) Useful information concerning the need for slow speed and low altitude for both these special purpose operations would confirm our assumptions about these two special purpose operations. Also, useful information would address the kinds of airfields from which these airplanes will operate. This information will help us gauge the potential risks and benefits to the public and the operators if we accept this aircraft design proposal. We are particularly looking for information to confirm or increase our knowledge of these operations, so we can address the hazard potential for agricultural airplane with multiple engines. We will ask for a submittal from the agricultural aviation industry to help on this decision.

(3) Certification Criteria for a Large Multi-Engine Firefighting Airplane

A manufacturer of restricted category airplanes (used for agricultural and firefighting special purpose operations) is proposing a new 36,000 pound twin engine airplane design. The manufacturer wants to build upon the experience of its current aircraft that are designed for agricultural and firefighting special purpose operations. We have developed, with the manufacturer, a certification basis for the 36,000 pound airplane that is a combination of small and large aircraft airworthiness standards. This combined certification basis is a significant departure from current practice. We believe that it is an appropriate certification basis for an aircraft intended solely for restricted category operations.

We developed this combined certification basis to permit the certification of agricultural airplanes weighing significantly more than the 12,500 pound limit for small aircraft. We did this because we agreed with the manufacturer's opinion that turboprop engine technology permits the consideration of large airplanes that need not be certificated to solely transport category airplane airworthiness standards. We believe this combined certification basis will permit development of airplanes with characteristics similar to those of existing agricultural airplanes. We believe this will result in greater safety for agricultural aircraft operators than if the part 25 airworthiness standards only are used for the 36,000 pound airplane design.

Why Is This Certification Basis Proposal Needed?

We believe this combined certification basis proposal is in the public interest, because we believe that a large restricted category airplane for agricultural or firefighting operations serves a public need. The only categories for aircraft certification that address large aircraft airworthiness standards are transport category (14 C.F.R. part 25) and commuter category (contained in 14 C.F.R. part 23). For both of these airplane categories, they are design criteria appropriate for aircraft engaged in transportation of passengers or cargo. As stated above in ***Restricted Category Background***, this level of safety and certitude is greater than that intended for restricted category aircraft.

The FAA notes that currently most large airplane restricted category type certificates are issued to military surplus aircraft. This is done in accordance with §21.25(a)(2). If a military surplus airplane is modified to obtain a restricted category type certificate, the FAA's certification is only to the civil airworthiness standards that pertain to the modification for the special purpose. Most of the design criteria for the military surplus restricted category airplane type certificate are accepted on the basis of the original military evaluation of the airplane and its subsequent service experience. We think that the level of confidence resulting from this proposed combined certification basis for this large agricultural airplane restricted category type certificate is equivalent to the level of certitude for a modified military surplus large airplane intended for a restricted category type certificate approval. For these reasons, and because representatives of the agricultural aviation community asked us to do so, we agreed to work with an agricultural airplane manufacturer to develop appropriate type certificate requirements for a large agricultural airplane design.

Limitations on the Intended Applicability of the Certification Basis Proposal

This certification basis proposal is for a particular airplane design proposal. For administrative purposes, it is a rule of particular applicability. However, the FAA and the manufacturer expended significant effort in developing this proposal. Therefore, if a similar project to this airplane design proposal occurs in the near future, we will use this proposal as its starting point to establish a certification basis. We intend for this proposal to be appropriate for what we consider to be medium sized aerial firefighting airplanes, no larger than what would correspond to Lockheed P2V Neptune aircraft replacements. Airplane features key to the applicability of this proposal are:

- Weight less than 60,000 pounds;
- Wing span less than 90 feet; aspect ratio less than 9.5; fuselage length less than 65 feet (each dimension is the approximate size of a DC-3 airplane);
- Maximum operating altitude is 15,000 feet or less;
- Design dive speed (V_D) less than 260 knots; unpowered flight controls; “conventional” empennage; irreversible control surface tabs.
- Metal construction; unpressurized cabin; fixed landing gear.
- Propeller powered; twin engine.
- Visual Flight Rules (VFR) operations only.

The Proposal

The detailed proposal is documented in a report titled “Large Agricultural Restricted Category Airplane Certification Basis Proposal – Twin Engine AT-2002 Project”, dated August, 2003. This report is based on a paragraph-by-paragraph comparison of part 23 and part 25 airworthiness standards, and identifies the requirement selected for certification basis. The report explains why the part 25 requirement is needed for this project, and states the reason why our policy permits using the Part 23 requirement for this large agricultural airplane project. The report also refers to any published guidance material, such as advisory circulars or FAA Directorate correspondence, for acceptable methods of compliance for the airworthiness standard in the certification basis. You may obtain a copy of this report by calling the individual identified in the section above titled

“For Further Information”. The report is also available for review or copy on the Internet at this website.

Summary of the Report

We considered many part 23 requirements acceptable for this project. Typically, our justification for accepting part 23 requirements instead of part 25 for this large agricultural restricted category airplane is that the operating environment for an agricultural airplane permits less stringent requirements (a different level of certitude) than that which is the basis for the transport category airworthiness standards. Because this is a large airplane, typically we have identified requirements that are waived as Part 25 rather than Part 23 requirements. In a few cases, we have identified a waived requirement as Part 25 and also listed a Part 23 requirement. This indicates a waived Part 25 requirement that corresponds to a waived Part 23 requirement listed in existing small agricultural airplane policy (either AC 21.25-1 or the corresponding Small Airplane Directorate policy memorandum dated December 1, 1997.) For the most part, the cited guidance material describing an acceptable method of compliance is an advisory circular that generally addresses all of the requirements in a subpart in either part 23 or part 25. For *Subpart A - General*, neither part 23 nor part 25 is used in the certification basis proposal. Instead, a restricted category type certificate will be issued to show that compliance has been found to the stated certification basis.

For *Subpart B – Flight*, part 23 requirements are proposed with the exception of requiring §25.143 qualitative controllability and maneuverability evaluations. The following requirements are waived: §25.21©, (d), (e); §25.27; §25.109-115; §25.125(a)(2) [§23.75(a)]; §25.125(f) [23.75(g)]; §25.237; §25.253-255.

For *Subpart C – Structure*, part 23 requirements are proposed with the exception of the following part 25 requirements: §25.305; §25.337(a), (b); §25.349-351; §25.371; §25.397; §25.415; §25.485-491; §25.495; §25.503. The following requirements are waived: §25.341(b); §25.487; §25.507. Alternative requirements are proposed for §25.337, §25.562 and §25.571.

For *Subpart D – Design and Construction*, part 23 requirements are proposed with the exception of the following part 25 requirements: §25.651(b); §25.657; §25.689. The following requirements are waived: §25.631; §25.703; §25.721; §25.809; §25.810; §25.857-858; §25.867; §25.869; §25.875.

For *Subpart E – Powerplant*, part 23 requirements are proposed with the exception of the following part 25 requirement: §25.963(d). The following requirements are waived: §25.941; §25.945; §25.981; §25.1107; §25.1167; §25.1197-1201; §25.1207. Alternative requirements are proposed for §25.954 and §25.1093.

For *Subpart F – Equipment*, part 23 requirements are proposed in place of all the part 25 requirements. The following requirements are waived: §23.1305(e); §25.1316; §23.1321(d), (e); §23.1325(b)(2)(ii) and (b)(3); §25.1433. Alternative requirements are proposed for §25.1419.

For *Subpart G – Operating Limitations and Information*, part 23 requirements are proposed with the exception of the following part 25 requirements: §25.1503; §25.1521. The following requirements are waived: §23.1305(cc); §25.1531-1533; §23.1581(e); §23.1583(g), (j).

Request for Comments on the Certification Basis Proposal

This notice advises the public and the agricultural aircraft industry of a proposal that establishes certification requirements for a large restricted category airplane. We solicit public comments concerning the possible consequences of relaxing certification requirements because we believe that there is potential public benefit for larger and more efficient agricultural airplanes. We believe that the public's risk (of consequences) from this approach is minor compared to the potential benefits. We also believe that the operating limitations of restricted category and certificated agricultural aircraft operations will further limit public risk.