

**CHANGE**

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# ADVISORY CIRCULAR

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

**SUBJECT:** CRITERIA FOR APPROVAL OF CATEGORY IIIa LANDING WEATHER MINIMA

PURPOSE. This change revises the CAT IIIa Landing Weather Minima maintenance requirements of paragraph 8 to make them consistent with the requirements for CAT IIa. It also adds a requirement for reliability reporting of components listed in aircraft manufacturers' CAT IIIa failure faults and analysis.

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- c. Use of RVR Information.
- d. Missed Approach Procedures.
- e. Instrument Failure Warning System.

- \* 8. MAINTENANCE PROGRAM. Each applicant is to establish a maintenance program, acceptable to FAA, to assure that the airborne equipment will continue at a level of performance and reliability demonstrated during the evaluation program. Applicants having existing FAA approved maintenance/reliability programs for Category II equipment may extend their program to include Category IIIa equipment. The following are minimum requirements:
- a. Reliability Reporting. For a period of one year after an applicant has been advised that its low approach system meets Category IIIa requirements, and reduced minima are authorized, the operator is to provide a monthly summary to the FAA of the following information:
    - (1) The total number of approaches where the equipment constituting the airborne portion of the Category IIIa system was utilized to make satisfactory actual or simulated approaches to Category IIIa minima (by aircraft type).
    - (2) The total number of unsatisfactory approaches and the reasons therefor (broken down into appropriate categories - airborne equipment faults, ground facility difficulties, aborts of approaches because of ATC instructions) by airport and aircraft registration number.
    - (3) A semi-annual summary report for all components listed in the aircraft manufacturer's Category IIIa failure or fault analysis that had a failure rate design consideration. This summary report is to show comparison of actual failure rates with the failure rates used as a basic for Category IIIa system design. The certificate holding office will notify the type design holding region when the reliability data indicates the Category IIIa system requires a design review, and whenever a component exceeds the design failure rate value of the failure analysis.
  - b. Maintenance Personnel Training. Each applicant is to establish an initial and recurrent training program acceptable to the FAA for personnel performing maintenance work on Category IIIa airborne systems and equipment. Training records for such personnel are to be kept current and made available to FAA for inspection.
  - c. Test Equipment and Standards. The applicant's program for maintenance of line (ramp) test equipment, shop (bench) test equipment and a listing of all primary and secondary standards utilized during maintenance of test equipment which relates to Category IIIa operation

are to be submitted to the FAA for determination of adequacy. Emphasis will be placed on standards associated with ILS receivers, flight directors, autopilot couplers, autothrottles and altimeter systems and maintenance techniques and procedures of associated redundant systems.

- d. Maintenance Procedures. Any changes to maintenance procedures, practices, or limitations established in the qualification for Category IIIa operations are to be submitted to the FAA for acceptance before such changes are adopted.
- e. Engineering Modifications. Titles and numbers of all modifications, additions, and changes which were made to qualify aircraft systems for Category IIIa performance are to be provided to FAA. \*

9. APPROVAL OF CATEGORY IIIa WEATHER MINIMA. When an applicant has complied with the appropriate provisions of these criteria, operations specifications authorizing automatic landings under visibility conditions of 1000 RVR may be issued. During the period (minimum of six months) following the issuance of these specifications, the operator must successfully complete an operations demonstration and data collection program as part of the approval process to ensure continued performance and reliability of the system before operations down to 700' RVR are authorized.

a. Airborne Systems Operational Demonstration. One hundred (100) successful landings are to be accomplished in line operations using the Category IIIa system installed in each aircraft type. If failures occur during the program, a determination will be made of the need for additional demonstration landings.

(1) The demonstration should be accomplished on Category IIIa ILS facilities. However, at the operator's option, some demonstration may be made on other ILS facilities of his choice. If this option is exercised, sufficient data must be recorded to determine the cause of any difficulties which arise.

(2) If an operator has different models of aircraft utilizing the same basic flight control guidance systems, the operator is to assure that the various models comply with the basic system performance criteria, but need not necessarily conduct a full operational demonstration for each model.

b. Data Collection During Airborne System Demonstration. Each applicant is to develop a form used by flight crews to record the approach and landing performance. This form will be utilized whenever an approach and landing is attempted utilizing the Category IIIa system, regardless of whether initiated, abandoned or concluded

successfully. The completed forms will be made available to the assigned FAA principal operations inspector for his evaluation. The form should include, but not be limited to, the following information:

- (1) If unable to initiate approach due to a deficiency in the airborne equipment, identify the deficiency.
- (2) If approach is abandoned, give the reasons and altitude above runway at which approach was discontinued.
- (3) Whether or not the aircraft landed within the desired touchdown dispersion area with lateral velocity or cross track error which could be corrected by the pilot so as to remain within the lateral confines of the runway without a requirement for unusual skill or techniques.

c. Data Analysis. Approaches which, for the following reasons, do not result in a successful landing are to be fully documented.

- (1) ATC instructions, for example where a flight is vectored too close in for adequate localizer and glide slope capture, and also ATC requests to abandon approach.
- (2) Faulty ground station signals or ILS beam irregularities, such as caused by other aircraft taxiing, over-flying the antenna, or where a pattern of such faulty performance can be established.
- (3) Any effect which would be clearly discernable to the flight crew prior to reaching the alert height under Category IIIa conditions.

NOTE: An evaluation of the above incidents will be made to determine suitability of the airborne system for Category IIIa operations.

d. Approval of 700 RVR.

- (1) U.S. Air Carriers. When the data from the operational demonstration has been analyzed and found acceptable, the applicant may be authorized to operate at 700' RVR.
- (2) Foreign Air Carriers. Foreign flag air carrier operations specifications may be amended to authorize Category IIIa landing minimums provided the air carrier:
  - (a) Is authorized for these minima by the State of Registry, and
  - (b) Certifies that its Category IIIa program is equivalent to that required for U.S. air carriers by this advisory circular.