U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

NOTICE
N 8200.97

Effective Date:
9/20/06
Cancellation Date:
9/20/07

SUBJ: AIRMAN AND AIRCRAFT APPROVAL FOR REDUCED VISIBILITY FLIGHT OPERATIONS, INCLUDING CATEGORY II/III OPERATIONS

1. PURPOSE. This notice provides guidance for all principal inspectors (PI) and other assigned aviation safety inspectors (ASI) who oversee and authorize operators to conduct reduced visibility flight operations, including instrument landing system (ILS) Category II/III (CAT II/III) operations, under Title 14 of the Code of Federal Regulations (14 CFR) parts 91, 121, 125 and 135.

2. DISTRIBUTION. This notice is distributed to the division level in the Flight Standards Service in Washington Headquarters; to the branch level in the regional Flight Standards divisions; to the Flight Standards District Offices (FSDO), and to the Regulatory Standards Division at the Mike Monroney Aeronautical Center. This notice is also distributed electronically to the division level in the Flight Standards Service in Washington headquarters and to all regional Flight Standards divisions and district offices. This information is also available on the Federal Aviation Administration's (FAA) employee Web site at http://fsims.avr.faa.gov/fsims/fsims.nsf/ and on the FAA Web site at http://www.faa.gov/library/manuals/examiners_inspectors/.

3. BACKGROUND. AFS-400 has elected to change its policy regarding the FAA approval process for U.S. operators pursuing ILS CAT II/III low visibility operations. Formerly, approvals to conduct such operations required the concurrence of AFS-400 and AFS-300 for the operator to be issued the appropriate operations specifications (OpSpecs). Due to the long successful history of U.S. operators conducting low visibility operations, all future ILS CAT II/III applications will now require concurrence at the Regional Flight Standards Division (RFSD) level through the All Weather Operations Program Manager (AWOPM). AFS-400 will continue to issue policy guidance, when necessary, from the Headquarters level. In that regard, AFS-400 has completed the document Airman and Aircraft Approval for Reduced Visibility Flight Operations, Including CAT II/III Operations, which is attached to this notice. This document describes the evaluation and approval process to be used by Flight Standards inspectors when evaluating CAT II/III applications. This document (which has been tested in the field) is the best resource for field inspectors when conducting a CAT II/III program evaluation. It supplements the Interactive Video Training (IVT) Information Sharing video on the same subject, which is available on the Web at http://employees.faa.gov/library/media_library/training/.

4. ACTION.

a. PIs should provide this notice to their respective operators when information is requested regarding the application, evaluation and approval process required by the FAA for ILS CAT II/III programs.

b. PIs and AWOPMs should become familiar with the attached document and adhere to the prescribed evaluation process as closely as possible to insure applications are processed in a standardized manner and with the requisite depth and detail.

5. TRACKING. Document the conveyance of the information contained in this notice for each air carrier affected. Use the Program Tracking and Reporting Subsystem (PTRS) codes contained in the attached document, Airman and Aircraft Certification for Reduced Visibility Flight Operations, Including Category II/III Operations.

6. DISPOSITION. This notice will be incorporated under The One Handbook Initiative as directed by AFS-1 within the next calendar year.

7. INQUIRIES. Questions concerning this notice should be directed to the Flight Operations Branch, AFS-410, at (202) 385-4670.

ORIGINAL SIGNED BY
/s/ Roger Forshee for
James J. Ballough
Director, Flight Standards Service

AIRMAN AND AIRCRAFT APPROVAL FOR REDUCED VISIBILITY FLIGHT OPERATIONS, INCLUDING CATEGORY I/II/III OPERATIONS

SECTION 1. BACKGROUND

1. PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODES.

- Category II/III ILS OPS Phase I approval for an Operator: 1430
- Category II/III ILS OPS Phase II approval for an Operator: 1431
- Category II/III ILS OPS Phase III approval for an Operator: 1432
- Category II/III ILS OPS Phase IV approval for an Operator: 1433
- Category II/III ILS OPS Phase V approval for an Operator: 1434

2. OBJECTIVE. The objective of this task is to evaluate an operator's ability to conduct instrument landing system (ILS) Category (CAT) I, II, and/or III approach operations, as applicable.

> **NOTE: The approval process for CAT I operations is contained in FAA Orders 8400.10, Air Transportation Operations Inspector's Handbook and 8700.1, General Aviation Operations Inspector's Handbook.**

3. DEFINITIONS. Definitions of ILS CAT I, II and III terms, procedures, and criteria are contained in Advisory Circular (AC) 120-29A, Criteria for Approval of CAT I and CAT II Weather Minima for Approach, Appendix 1, and AC 120-28D, Criteria for Approval of CAT III Weather Minima for Takeoff, Landing, and Rollout, Appendix 1.

4. APPLICABILITY.

a. Purpose. The purpose of this task is to provide operational system safety oversight, analysis, and guidance to principal inspectors (PI) and All Weather Operations Program Managers (AWOPMs) on the authorization of operators to conduct ILS approach operations. The principal operations inspector (POI) authorizes the ILS CAT I operation via the issuance of an operations specification (OpSpec). ILS CAT II and III approval, also through OpSpecs, additionally requires concurrence by the regional AWOPM. This includes ILS CAT II on Type I Facilities. This process applies to all U.S. operators who pursue FAA CAT II/III operational approval.

b. Process. The general process of approval or acceptance of certain operations, programs, documents, procedures, methods, or systems is an orderly method used by Flight Standards inspectors to ensure that such items meet regulatory standards and provide for safe operating

practices. It is a modular, generic process that is ideally suited for the approval of CAT II and III programs that are solicited by operators from the FAA. The process consists of five distinct yet related phases and can result in approving or not approving an operator's CAT II and/or CAT III application. It is important for an inspector to understand that the process described in this section is not all-inclusive, but rather a tool to be used with good judgment in conducting day-to-day duties and responsibilities. A flow diagram of the process is found in Appendix 5.

c. Phase One. The first phase starts when an operator inquires about the requirements necessary for achieving CAT II and/or III certification. During initial inquiries, it is important for the operator to become familiar with the subject matter. An excellent means of accomplishing this is for the operator to be required to submit a compliance statement that addresses every pertinent section of the appropriate CAT II or CAT III AC. The contents and structure of the compliance statement will be specifically covered in Appendix 1 of this Attachment. Other documents required for submission can be found in the CAT II/III Inspector job aid contained on the AFS-410 web site at http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs410/

NOTE: It is essential (particularly in phase one) for the operator to have a clear understanding that, although the inspector may provide advice and guidance to the operator, the development of the final product submitted to the FAA is solely the responsibility of the operator.

(1) In phase one, the inspector must ensure that the operator clearly understands the form, content, and documents required for the CAT II and/or CAT III submission to be acceptable to the FAA. The operator must be informed of the need and benefits of submitting required documents as early as possible and of its responsibility to advise the FAA, in a timely manner, of any significant changes in the proposal.

(2) Phase one of the process is illustrated as follows:

- Operator makes inquiry or request to FAA about CAT II and/or CAT III certification
- FAA advises operator of required CAT II and/or CAT III application requirements and documentation; also, regional AWOPM is advised of operator’s intent
- FAA and operator develop understanding of subject area
- Operator understands form, content, and documents required for acceptable CAT II and/or CAT III submission.

d. Phase Two. Phase two begins when the operator formally submits a CAT II and/or III application for FAA evaluation.

(1) The inspector's first action, in phase two, is to evaluate the operator's submission to ensure that the proposal is clearly defined, and the documentation specified in phase one has been provided. This examination should be accomplished in conjunction with the regional

AWOPM. The required information must be complete and detailed enough to permit a thorough evaluation of the operator's capability and competence to fully satisfy the applicable regulations, national policy, and safe operating practices required to conduct CAT II/III operations.

(2) Phase two does not include a detailed operational and technical evaluation or analysis of the submitted information (see phase three). However, in phase two the submission must be examined in sufficient detail to assess the completeness of the required information. If the operator's submission is not complete or the quality is obviously unacceptable, it must be returned immediately with an explanation of the deficiencies, before any further review and evaluation is conducted. Normally, unacceptable submissions should be returned with a written explanation of the reasons for its return. In complex cases, a meeting with the operator and its key personnel may be necessary to resolve issues and agree on a mutually acceptable solution. If mutual agreements cannot be reached, the inspector must terminate the meeting, inform the operator that the submission is unacceptable, and return the submission. If all parties are able to reach agreement on measures to correct omissions or deficiencies, and the principal inspectors (operations, airworthiness, and avionics, if applicable) determine that the submission is acceptable, the operator will be so informed, and phase three begins.

(3) Phase two of the process is illustrated as follows:

(a) Operator submits application;

(b) FAA makes initial examination of the documents for completeness with respect to requirements established in phase one;

(c) FAA returns submitted application; or

(d) FAA accepts submitted application.

NOTE: It is important for the inspector involved to keep the operator advised of the status of its proposal. If the inspector takes no other action, or if the submission is deficient and not returned in a timely manner, the applicant may assume that the FAA has tacitly accepted the submission and is continuing with the process.

e. Phase Three. Phase three is the FAA's detailed analysis, review, and evaluation of the operator's proposal. These actions may take place within a field office, at the Regional Office, at the operator’s facilities, or at a combination of all these locations.

(1) In phase three, the FAA evaluation is focused on the form, content, and technical quality of the submitted application to determine that the information in the proposal meets the following criteria:

- Is not contrary to any applicable CFR
- Is not contrary to the direction provided in this document or other safety-related documents
- Provides for safe operating practices

(2) Criteria for evaluating the formal application is found in section 2, Procedures, of this chapter, and follows the general guidance contained in the CAT II/III Job Aid. The inspector must ensure that the documents adequately establish the operator's capability and competence to safely conduct CAT II/III operations in accordance with (IAW) the submitted application.

(3) During phase three the FAA inspector must, in a timely manner, address any deficiencies in the submitted material before proceeding to subsequent phases. Discussion with the operator may be sufficient to resolve certain discrepancies or questions or to obtain additional information. It may be necessary to return certain sections of the submission to the operator for specific changes. However, when an inspector determines that, for specific reasons, the material is grossly deficient or unacceptable, the inspector must return the entire submission to the operator with an appropriate explanation and immediately terminate this phase.

(4) An important aspect of phase three is for FAA inspectors to begin planning the conduct of phase four. While evaluating the operator's formal submission, inspectors should begin to formulate plans to observe and evaluate the operator's ability to demonstrate their ability to conduct CAT II/III operations. These plans must be finalized before the actual demonstrations. Phase three shall require that the FAA approve certain programs before conducting actual line operations in phase four. For example, in phase three the operator initiates FAA-Approved CAT II/III training and must have the avionics and airworthiness programs approved before conducting actual line operations.

NOTE: Most of the submitted materials evaluated during phase three (training programs, manuals, etc) shall be evaluated IAW the policy and guidance contained in the applicable sections of Order 8400.10, The Air Transportation Operations Inspector's Handbook.

(5) Phase three is illustrated as follows:

(a) FAA evaluates the formal submission for compliance with 14 CFR, compliance with the direction provided in this document, other safety-related documents, and safe operating practices.

(b) When results of FAA evaluation are unsatisfactory, return submission to the operator for correction and/or terminate the phase.

(c) Begin planning phase four (if required).

(d) FAA approves necessary CAT II/III training, avionics programs, manual revisions, etc.

(e) When results of FAA evaluation are satisfactory, proceed with phase four and if appropriate, grant conditional approval or acceptance as required.

f. Phase Four. Phase four is referred to as the Operator Use Suitability Demonstration (OUSD) in AC-28D and 120-29A. In the generic five phase operational approval process it

replaces the term Validation Test. Phase four is the line operational evaluation of the operator's ability to conduct CAT II/III operations IAW the application evaluated in phase three.

(1) Criteria and procedures for evaluating the OUSD are described in Appendix 2. The inspector responsible for overseeing the demonstration must evaluate any discrepancies in terms of its overall impact on the operator's ability and competency to conduct the proposed operation. The inspector must stop the demonstration in phase four when gross deficiencies or unacceptable levels of performance are observed. The inspector must identify the phase of the general process for approval or acceptance to which the applicant must return, or decide to terminate the process entirely when it is clear that continuation would not result in approval or acceptance. For example, if the demonstration is unacceptable because crewmembers were unable to perform their assigned duties, it may be appropriate to advise the operator that the process is terminated pending review and evaluation of the operator's CAT II/III training program, and that the operator may need to reenter the process at phase two (that is, submit a new proposal).

(2) If the FAA evaluation of the operator's demonstrated ability is acceptable, the process continues. Phase four of the process is illustrated as follows:

(a) FAA plans for the conduct and observation of the demonstration.

(b) Operator demonstrates ability;

(c) Demonstration unsatisfactory, or

(d) Demonstration satisfactory.

NOTE: An operator shall not, under any circumstances, be authorized or otherwise approved to conduct any particular operation until all airworthiness and operations requirements are met and the operator is clearly capable of conducting a safe operation in compliance with FAA regulations and safe operating practices.

g. Phase Five. In phase five the FAA approves the operator's ILS program proposal. If the proposal is not approved or accepted, the operator is notified in phase three or four. Approval is granted by issuance of OpSpecs, management specifications (MSpecs), or a Letter of Authorization (LOA) as applicable.

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SECTION 2. PROCEDURES

1. PREREQUISITES AND COORDINATION REQUIREMENTS.

a. Prerequisites. This task requires knowledge of National Airspace System (NAS) operational requirements, knowledge of FAA certification rules, policies, operational system requirements, knowledge of reduced visibility flight operations, aircraft systems, certification requirements, skill in applying system safety principles, and the ability to link local issues with the broader regional, national, and international concerns.

b. Coordination. This task may require coordination with the operator, training vendors, and aircraft/avionics manufacturers.

2. REFERENCES, FORMS, AND JOB AIDS.

a. References:

(1) Laws:

- Title 49 of the United States Code (49 USC):
  - §40101(a)
  - §40103(e)
  - §40113(a)
  - §41101(a)(b)
  - §41101(c)
  - §41102
  - §41103(b)(2)
  - §41701
  - §41702
  - §44505(a)(A) and (B)
  - §44702(f)(4)
  - §44709(a)
  - §44721
  - §46105(a)
  - §46106

(2) Regulations:

- Title 14 of the Code of Federal Regulation (14 CFR):
  - Part 91
  - Part 97
  - Part 119
  - Part 121
  - Part 129
  - Part 135

(3) FAA Orders (current editions):

- Order 1050.1, Environmental Impacts: Policies and Procedures
- Order 7110.65, Air Traffic Control
- Order 7110.98, Simultaneous Converging Instrument Approaches (SCIA)
- Order 8260.39, Close Parallel ILS/MLS Approaches
- Order 8260.45, Terminal Arrival Area (TAA) Design Criteria
- Order 8260.49, Simultaneous Offset Instrument Approach (SOIA)
- Order 8260.50, US Standard for Wide Area Augmentation System (WAAS) LPV Approach Procedure Construction Criteria
- Order 8260.51, United States Standard for Required Navigation Performance (RNP) Instrument Approach Procedure Construction
- Order 8300.10, Airworthiness Inspector's Handbook
- Order 8400.10, Air Transportation Operations Inspector's Handbook
- Order 8400.13, Procedures for the Approval of Special Authorization CAT II and Lowest Standard CAT I Operations
- Order 8400.14, Air Carrier IFR Approval for Transponder Landing System Special Category I Approaches

- Order 8400.8, Procedures for the Approval of Facilities for FAR Part 121 and Part 135 CAT III Operations

(4) FAA Advisory Circulars (current editions):

- AC 23.1309-1, Equipment, Systems, and Installations in Part 23 Airplanes
- AC 25.1309-1, System Design and Analysis
- AC 25-7, Flight Test Guide for Certification of Transport Category Airplanes
- AC 91-16, CAT II Operations - General Aviation Airplanes
- AC 97-1A, Runway Visual Range (RVR)
- AC 120-28D, Criteria for Approval of Category III Weather Minima for Takeoff, Landing and Rollout
- AC 120-29A, Criteria for Approving Category I and Category II Landing Minima for 14 CFR Part 121 Operators
- AC 120-57A, Surface Movement Guidance and Control System
- AC 120-67, Criteria For Operational Approval of Auto Flight Guidance Systems
- AC 120-71A, Standard Operating Procedures for Flight Deck Crewmembers

(5) General Guidance:

- Obstruction charts (OC)
- OEP
- Technical Standard Orders (TSO)
- U.S. Flight Information Publications (FLIP)

b. Forms:

- Figure 1
- Figure 2
- Figure 3

c. Job Aid. An example of the CAT II/III Job Aid is included below. For the most recent version of both the Operations and Airworthiness Job Aids refer to the AFS-410 Web site at: http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs410/.

SAMPLE. CAT II/III APPROVAL JOB AID (OPERATIONS)

		CAT II/III APPROVAL JOB AID	Seeking Authorization for: CAT II ❑ CAT IIIA ❑ CAT IIIB ❑
		Operator Name:	
		14 CFR PART ❑121 ❑125 ❑135 ❑91K ❑91 small category A ❑91F	Date:
		Previous CAT II: Yes ❑ No ❑ CAT III: Yes ❑ No ❑	
		FLIGHT OPERATIONS	Operator's Reference Document
	1	**OPERATOR PROCEDURES**	
	1.A	Type of Operation	
	1.B	CAT II and CAT III Instrument Approach Procedures	
	1.C	Aircraft Flight Manual (AFM)/ Flight Operations Manual (FOM)/ pilot's operating handbook (POH)/ quick reference handbook (QRH) Provisions, as applicable	
	1.D	Crew Coordination and Monitoring Procedures	
	1.E	Callouts	
	1.F	Use of Decision Altitude (DA) (H) and Minimum Descent Altitude (MDA) (H)[Fail Passive])	
	1.G	Use of Alert Height (AH)[Fail Active]	
	1.H	Crew Briefings	
	1.I	Configurations	
	1.J	Non-Normal Operations and Procedures	
	1.K	Special Environmental Considerations (as applicable)	
	1.L	Continuing CAT II/III Approaches in deteriorating Weather C	
	1.M	Dispatch Planning and minimum equipment list (MEL)/Configuration Deviation List (CDL) Requirements	
	1.N	Aircraft System Suitability Demonstration (as required)	
	1.O	Operator Use Suitability Demonstration (OUSD)	

SAMPLE. CATEGORY II/III APPROVAL JOB AID (OPERATIONS) (Continued)

	1.P	Data Collection/Analysis for Airborne System Demonstrations	
	1.Q	Operational Procedure for Return to Service	
	2	**TRAINING AND CREW QUALIFICAT ION**	
	2.A	Initial Training	
	2.B	Recurrent Training/Qualification	
	2.C	Upgrade Training	
	2.D	Requalification Training	
	2.E	Recency of Experience	
	2.F	Differences Training	
	2.G	Simultaneous Training and Qualification for CAT II and III	
	2.H	Ground Training Curriculum Segment	
	2.I	Surface Movement Guidance and Control System (SMGCS) Training	
	2.J	Flight Training Curriculum Segment	
	2.K	Maneuvers and Procedures Document	
	2.L	Initial Qualification	
	2.M	Low Visibility Takeoff Qualification	
	2.N	Multiple Aircraft Type or Variant Qualification (as applicable)	
	2.O	Special Qualification Airports (as applicable)	
	2.P	High Limit Captain Procedures	
	2.Q	Line Checks	
	2.R	Crew Records and Notification System	
	2.S	Advanced Qualification Program (AQP) and Single Visit Training Program exemptions	

SAMPLE. CATEGORY II/III APPROVAL JOB AID (OPERATIONS) (Continued)

	3	**AIRPLANE AND EQUIPMENT**	
	3.A	Airborne Systems for CAT II	
	3.B	Airborne Systems for CAT III	
	3.C	Automatic Flight control and Landing Systems	
	3.D	Flight Director Systems	
	3.E	Head up Display Systems	
	3.F	Enhanced/Synthetic Vision Systems	
	3.G	Hybrid Displays	
	3.H	Required Navigation Performance (RNP)	
	4	**OPERATIONS SPECIFICAT IONS**	
	4.A	Approval of CAT II/III Minima and Issuance of Operations Specifications	
	4.B	Operations Specifications Amendments	
	5	**OPERATOR'S DOCUMENT APPLICAT ION PACKAGE**	
	5.A	Aircraft Operations Manual (Pertinent Parts)	
	5.B	Flight Operations Manual (Pertinent Parts)	
	5.C	Compliance Documents	
	5.D	Flight Operations Training Manual	
	5.E	Requested Operations Specifications	
	5.F	Implementation Timetable	
	5.G	MEL	
	5.H	OUSD Plan	
	5.I	Application Letter	

NOTE: Most of the submitted materials evaluated during phase three (training programs, manuals, etc) shall be evaluated IAW the policy and guidance contained in the applicable sections of Order 8400.10.

3. INSPECTOR PROCEDURES.

a. POI authorize issuance of part 97 ILS CAT I operations via issuance of OpSpec or LOA as appropriate. The purpose of this task is for a PI to authorize ILS CAT I operations.

(1) For CAT I, unless a certificate holding district office (CHDO) otherwise specifies that approach demonstrations are necessary due to unusual circumstances or special situations for special systems such as Autoland, operators may conduct CAT I operations without need for special demonstrations, if the aircraft type AFM does not preclude the intended operation. This task is usually performed in a Flight Standards District Office (FSDO)/certificate management office (CMO).

(2) The acceptable task performance is that applicants are issued the OpSpec (or a letter of disapproval of application for the OpSpec) in a timely manner, as appropriate to the content of the application and the qualifications of the applicant.

b. POI authorize issuance of appropriate OpSpec for operators to conduct ILS CAT II and III procedures (after concurrence from the AWOPM). The purpose of this task is for the POI to authorize issuance of the appropriate OpSpec (or a letter of disapproval of application for the OpSpec) for operators to conduct ILS CAT II and III operations (after concurrence from the AWOPM).

(1) This task is usually performed in the RO, FSDO/CMO, or operator's facility. It must be emphasized that the principle points of contact with the operator are the POI, PMI and PAI. Any errors or corrections discovered during the evaluation, by the AWOPM for example, must be channeled through those Principle Inspectors back to the applicant. This process will ensure consistency and continuity.

(2) The acceptable task performance standard is that the CAT II/III OpSpecs, as applicable, are issued in a timely manner.

c. Initial Inquiry (Phase One)

(1) Upon initial inquiry, determine the type of operation proposed by the applicant and which of the following apply:

(a) Type of operator: part 121, 125, 135, 91K, 91 small category A, 91F

(b) CAT II operations.

(c) CAT IIIa, CAT IIIb operations.

(d) Type of operation (Autoflight/Autoland, Head-Up-Guidance System (HGS), etc)

(e) Previous CAT III experience (yes/no).

(2) Advise the applicant to submit a letter of intent (Figure 1). The letter of intent should be submitted before the formal application so the FAA can dedicate appropriate resources for the evaluation of the application. Once the letter of intent is received the POI should notify the regional AWOPM.

(3) Provide the applicant with a copy of AC(s) 120-29A (for CAT II applicants), 120-28D (for CAT III applicants), or advise the applicant on how to obtain a copy of these ACs.

(4) Provide the applicant with copies of the latest versions of CAT II/III Job Aids and advise of the information contained on the AFS 410 web site at http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs410/

(5) Explain the Job Aid to the applicant with particular emphasis on what the contents of the application include, what a compliance statement consists of (see Appendix 1), and what the OUSD entails (Appendix 2). Advise the applicant that the application package should be distinctly divided into an airworthiness section and an operations section for evaluation purposes.

(6) Advise the applicant of the importance of committing resources in developing the application package and that, even if a perfect package is submitted, the time line requirement (after package approval) will be a minimum of six months for CAT II and an additional six months for CAT III OpSpecs issuance due to the OUSD requirements.

NOTE: The time line may be significantly compressed for operators with CAT II/III experience if they are requesting approval of a different series aircraft of a model that has previously been approved for the operator.

(7) Advise the applicant to name the company's central point of contact, and provide telephone and fax contact numbers as early as possible.

(8) PTRS. Make appropriate PTRS entries. Note the date the letter of intent (if applicable) was sent for review.

d. Receipt of Application (Phase 2).

(1) Upon receipt of the formal application the first task is to inventory the contents of the package by referencing the respective operations and airworthiness job aids sections entitled Operator’s Document Application Package. If any of the documentation is missing or appears incomplete the evaluation process may begin on the remaining documents.

(2) Timely notification to the operator on the documents that or missing or incomplete should be made as soon as practical.

e. Evaluating the Formal Application Package (Phase 3).

(1) Begin the evaluation of the applicant's package by entering the operator's name and applicable CFR type of operation on the Job Aid.

(2) Then following the Job Aid line by line, enter the appropriate page or section from the operator's documents into the Operator's Reference Document column. Note the Job Aid has linked references to AC's, regulations, and orders that will provide additional guidance during the conduct of the evaluation. What follows is a representative section of the Flight Operations Job Aid Illustrating how entries are made by the reviewing inspector:

FLIGHT OPERATIONS JOB AID SAMPLE

		FLIGHT OPERATIONS	Operator's Reference Document
	1	**OPERATOR PROCEDURES**	**OM = Operations Manual**
✓	1.A	Type of Operation	OM, 1.1.0 & 1.2.0
✓	1.B	CAT II and CAT IIIA Instrument Approach Procedures	OM, 1.4, 1.5 and 1.6
?	1.C	AFM/FOM/POH/QRH Provisions, as applicable	Need pertinent portions
✓	1.D	Crew Coordination and Monitoring Procedures	OM Chapter 1
✓	1.E	Callouts	OM Chapter 1
✓	1.F	Use of DA (H) and MDA (H)[Fail Passive])	OM Chapter 1
✓	1.G	Use of Alert Height (AH)[Fail Active]	Not applicable
✓	1.H	Crew Briefings	OM Chapter 1
✓	1.I	Configurations	OM Chapter 1
✓	1.J	Non-Normal Operations and Procedures	OM Chapter 1
✓	1.K	Special Environmental Considerations (as applicable))	Not covered
✓	1.L	Continuing CAT II/ IIIA Approaches in deteriorating Weather C	OM Chapter 1
?	1. M	Dispatch Planning and MEL/CDL Requirements	No CAT II list (OM 3.1.3)
✓	1.N	Aircraft System Suitability Demonstration (as required)	Not applicable
?	1.O	Operator Use Suitability Demonstration	Need OUSD plan
?	1.Q	Operational Procedure for Return to Service	No clear procedure found
?	1.P	Data Collection/Analysis for Airborne System Demonstrations	Need OUSD plan

(3) While the Job Aids provide a systematic, standardized approach to conducting the evaluation, they do not provide sufficient depth and scope to capture areas that are identified as needing additional work. These areas may be complex and need further clarification, or be as simple as typographical errors that require correction.

(4) Therefore the inspector should initiate and maintain a separate comment document list of findings while conducting the evaluation. The following is an example of what such a list may look like, and illustrates the depth and scope of what the evaluation should consist of:

COMMENT DOCUMENT LIST: EXAMPLE

ABC Air Transport has submitted a CAT II/IIIA Operations Manual (hereafter referred to as OM) containing nine (9) tabbed sections, named as follows:

1. Table of Contents
2. Preface
3. Log of Revisions
4. List of Effective Pages
5. Chapter 1
6. Chapter 2
7. Chapter 3
8. Chapter 4
9. Appendix

It is noted that the List of Effective Pages, pages 1 and 2, have been marked FAA-Approved with an effective date of 6/28/05. However, the FAA has not yet approved this OM.

The following is a list of concerns after review by the Regional AWOPM:

- The Table of Contents for Chapter 1 does not list or refer in any way to CAT II procedures and instructions, while in fact the OM purports to apply to CAT II/IIIA procedures and instructions.
- section 1.2.0, line 1, refers to This CAT IIIA Manual when in fact the OM is labeled CAT II/IIIA Operating Manual.
- The second full paragraph in section 1.2.0 states: The airplane to which this Manual applies may be used to conduct CAT IIIA operations provided the instruments and items of equipment listed herein that are required for a particular CAT IIIA operation are: but does not state it can be used to conduct CAT II operations.

Throughout the OM CAT II and CAT IIIA procedures and instructions are not clearly separated, resulting in some confusion to the reader. Paragraph 6.1.7 in Advisory Circular 120-28D states The operator should assure that to the greatest extent possible, procedures for CAT IIIA are consistent with the procedures for that operator for CAT II and CAT I to minimize confusion about which procedure should be used or to preclude procedural errors.

In the section Pitch Modes in the ALT ACQ item, there is a typo in the word V?S.

f. During the evaluation, if any documents or other relevant parts of the application require correction, are missing, or are incomplete, the applicant should be notified immediately. Normally documents should not be returned to the applicant unless so requested. This facilitates the ability to compare newly revised material with its earlier version. A log should be kept by the reviewing inspector to maintain a historical record of telephone conversations, e-mails, or other forms of correspondence that occurs during the evaluation period. However if the majority of the application package is deemed to be unacceptable to the inspector, it should be returned with a letter of disapproval (Figure 2).

g. The Demonstration Phase (Phase Four). Phase four is referred to as the OUSD. This phase begins after the POI has received concurrence from the AWOPM that the operator's application package is in order and has been approved. The OUSD plan submitted with the application is the primary vehicle used for conducting this phase. Guidance for the OUSD, and an example of an acceptable OUSD plan are contained in Appendix 2.

h. The Approval Phase (Phase Five). OpsSpecs/MSpecs authorizations are issued IAW the guidance, direction and procedures found in FAA Order 8400.10, Volume 3, Section 5: Part C Operations Specifications-Airplane Terminal Instrument Procedures and Airport Authorizations and Limitations. LOAs are issued IAW the guidance, direction, and procedures found in FAA Order 8700.1, volume 2, chapter 59.

FIGURE 1. SAMPLE LETTER OF INTENT TO CONDUCT CAT II OR III OPERATIONS

[*date*]

The ABC Airlines (proposed CAT II/IIIA operator)

127 North Street

Chardon, OH 44024

Dear Inspector

ABC Airlines operates 26 B-737-800 aircraft as a U.S. domestic Part 121 operator with our Operational Headquarters located in Cleveland, Ohio. We conduct scheduled operations throughout the northeast United States. Because of the predominant inclement weather (fog) during certain months of the year we find it necessary to conduct instrument landing system (ILS) approaches at many of our NE stations.

During our last two years of operations, we have experienced an unacceptable rate of missed approaches especially during the fall and winter months.

Our aircraft are equipped with state of the art avionics system that is certified by the OEM (Boeing) to conduct CAT II/IIIa operations.

Please consider this ABC's letter of intent to apply for unrestricted CAT II and CAT IIIa flight operations. We look forward to your advice and guidance on this very important endeavor.

Sincerely,

Captain Boe Sharp,
Director of Operations

FIGURE 2. SAMPLE LETTER OF DISAPPROVAL OF A CAT II/IIIA APPLICAT ION PACKAGE

Subject:	**INFORMATION:** ABC Airlines Inc. B-737-800, CAT II/IIIa Operations	Date:	
From:	Primary Operations Inspector AGL-230	Reply to Attn. of:	POI FAX: (847) 294-4554

To: ABC Airlines,

This is to inform you that the CAT II/IIIA application package submitted on [*indicate date*] has been disapproved for the following reasons:

[*list reasons for disapprova*l]

The application package is being returned in its entirety.

Please make the corrections noted and resubmit to this office within 15 days of receipt of this letter.

If you have any questions please feel free to contact this office during regular business hours at the following telephone number [*indicate number*].

If you have any further questions concerning this matter please contact Primary Operations Inspector [*name*] at (847) 294-4670.

Sincerely,

[*POI's Signature*]

AFS-410_____AFS-400_____*

File:

WP: ABC Airlines Inc.doc

AGL-230: POI: AMM: 847-294-4670:12/22/2005

FIGURE 3. SAMPLE LETTER OF APPROVAL OF A CAT II/IIIA APPLICAT ION

Subject:	**INFORMATION:** ABC Airlines Inc. B-737-800, CAT II/IIIA Operations	Date:	
From:	All Weather Operations Program Manager, AGL-230	Reply to Attn. of:	Inspector AWOPM: (847) 294-4670 FAX: (847) 294-4554
To:	ABC Airlines, Inc POI		

We have completed our operational/Airworthiness review of the ABC Airlines Inc. application for fail passive CAT II/IIIA approval for their B-737-800 aircraft and find they meet all the provisions set forth in the applicable advisory circulars and FAA orders.

We recommend approval be granted to initiate ABC's Operational Use Suitability Demonstration (OUSD) as soon as practical. After successful completion of the OUSD, CAT II minima (100 DH/RVR 1200 RVR) may be authorized. Thence, minima may be further reduced according to the following timetable:

AUTHORIZATION	DH/AH//RVR	DEMONSTRATION PERIOD (OUSD)	# LANDINGS*
CATEGORY II	**100'DH/1200**	**6 MONTHS**	**50**
CATEGORY IIIb	**100'AH /600**	**6 MONTHS**	**50**

Upon successful completion of their OUSD, ABC airlines aircraft will be added to our CAT II/III status list available at the following Website address:http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs410/

If you have any further questions concerning this matter please contact Inspector [*name*], AWOPM in AGL-230 at (847) 294-4670.

AGL Branch Manager

AFS-410_____AFS-400_____*

File:

WP: ABC Airlines Inc.doc

AGL-230: I AWOPM: AMM: 847-294-4670:12/22/2005

APPENDIX 1. COMPLIANCE STATEMENT

Compliance Statement. Any operator that has no previous experience with ILS CAT II/III operations shall prepare a compliance statement. Operators with previous CAT II/III approved programs are not required, but are encouraged to submit a compliance statement or an amendment to a previously submitted compliance statement.

(1) Preparation of the compliance statement benefits the applicant by systematically ensuring that all applicable areas are appropriately addressed during the evaluation process. The compliance statement shall be in the form of a complete listing of all appropriate advisory circular (AC 120-29A and or AC 120-28D) sections pertinent to the operation the applicant is proposing.

(2) Next to each listing, the applicant must provide a specific reference to a manual, or other document in the application package, and may provide a brief narrative description that describes how the applicant will comply with each section. The compliance statement also serves as a master index to the applicant's manual system to expedite the FAA's review and approval of the operation and manual system. The compliance statement is an important source document during the evaluation process.

(3) After the evaluation process is completed, the compliance statement should be kept current as changes are incorporated in the applicant's system. Compliance statements should be prepared as a two-volume application. Volume I should contain the AC reference by section (i.e., AC 120-29A, section 6.1.8) and provide the location in the operator's source document (i.e., AFM, sec. 2.4, pg. 36). Volume II should contain all the relevant operator documents pertaining to the operator's application package.

(4) Examples of the compliance statement format are provided below:

EXAMPLE 1. COMPLIANCE STATEMENT. TABLE OF CONTENTS

NOTE: The table of contents in the operator's application package should mirror the table of contents contained in AC 120-29A and AC 120-28D as follows.

LOWER MINIMUM PROGRAM (LMP) APPLICAT ION

CATEGORY II AND CATEGORY IIIA AUTOMATIC LANDING OPERATIONS

TABLE OF CONTENTS

VOLUME I

EXAMPLE 2. COMPLIANCE STATEMENT: SECTION 1 (ABOVE), GENERAL

ABC AIRLINES, INC. LOWER MINIMUM PROGRAM (LMP) APPLICAT ION

CATEGORY II AND CATEGORY IIIA AUTOMATIC LANDING OPERATIONS

GENERAL

The ABC Airlines, Inc. Lower Minimum Program (LMP) Application Volumes I and II, are prepared, and hereby submitted to demonstrate compliance with the FAA directives pertaining to CAT II, IIIA and Autoland operations for the purposes of receiving FAA approval via OpSpecs.

Per the requirements contained in AC 120-28D and AC 120-29A, ABC Airlines, Inc. requests the issuance of operations specifications (OpSpecs) C059, C060, and C061 for the B-737-800. Samples of these OpSpecs are included at the end of this General section. These OpSpecs are necessary to authorize automatic landings and CAT II operations to a decision height (DH) of 100 feet and a corresponding RVR of 1200. CAT IlIA operations to a DH of 50 feet and RVR of 700 feet are simultaneously applied for and here incorporated. Advisory Circular 120-28D, section 10.12, page 81, Initiating New Combined CAT II and CAT IIIA programs, sets forth the acceptable provisions for the ABC Airlines combined LMP application methodology.

The Compliance Table (section 1, page 2, Table 1) sets forth each prerequisite on the following pages. Moreover, AC 120-29A and AC 120-28D are referenced throughout.

This application is constructed in a manner that demonstrates compliance with each applicable paragraph of AC 120-29A and section of AC 120-28D. ABC Airlines, Inc. compliance statements begin in volume 1, section 2, and page 1 of this application. Paragraphs/sections listed under the Advisory Circular Reference column describe how ABC Airlines, Inc. has achieved compliance with AC 120-29A and AC 120-28D. A Source Document column lists the reference document title, section/chapter and page numbers.

WEATHER MINIMA OBJECTIVES

ABC Airlines, Inc. seeks an initial automatic landing authorization with CAT I landing weather minima or better and decision height. After a satisfactory number of autolands have been demonstrated, CAT II minima (100 DH/RVR 1200) can be authorized.

After a minimum of 6 months and 100 landing demonstrations, ABC Airlines, Inc. seeks provisional CAT IIIA minima of not less than 100 feet above the touchdown zone and not less than RVR 1000.

Pending completion of the provisional CAT IIIA demonstration period (minimum 6 months/100 landing demonstrations) ABC seeks CAT IIIA landing weather minima of not less than 50 feet above the touchdown zone and not less than RVR 700.

For CAT II, provisional CAT IIIA, and CAT IIIA a reduction in the required number of landing demonstrations may be requested IAW AC 120-28D, section 10.5.2.

EXAMPLE 3. COMPLIANCE STATEMENT: COMPLIANCE STATEMENT FORMAT (OPERATIONS)

SECTION 3

BACKGROUND (Operations)

ADVISORY CIRCULAR REFERENCE	SOURCE DOCUMENT	FAA COMMENTS
Major Changes Addressed in this Revision (AC 120-29A & AC 120-28D) ABC Airlines, Inc. does not seek approval for low visibility approaches using: head-up displays, use of required navigation performance (RNP), satellite based navigation, engine inoperative CAT II or IIIA approaches, or wide-body fail passive operations.	AC 120-29A, par .3.1, page 2 AC 120-28D, section 3.1, page 2 B-737-800 FOTM, page 4.19	
Relationships of Operational Authorizations for CAT I, II or IIIa and Airborne System Demonstrations (AC 120-29A & AC 120-28D) The B737-800 is type certified (TC) by the original equipment manufacturer (OEM) as a CAT IIIA aircraft. No initial airworthiness demonstrations of airborne equipment and systems is required.	AFM, section 1, page 15 AFM, section 3, pages 4A, 5, 5A, 6	
Applicable Criteria (AC 120-29A & AC 120-28D) Current AC 120-29A and AC 120-28D has been used to establish CAT II/IIIA operations. ABC Airlines, Inc. will comply with AC 120-29A and AC 120-28D criteria.	AC 120-29A, par. 3.3, page 2 AC 120-28D, section 3.3, page 3	
CAT I, II, and IIIa Terminology (AC 120-29A) ABC Airlines, Inc. CAT I, II, and IIIA definitions are consistent with U.S. standard operations specifications, AC 120-29A.	AC 120-29A, Appendix 1, pages 1-18	

SECTION 4

OPERATIONAL CONCEPTS (Operations)

ADVISORY CIRCULAR REFERENCE	SOURCE DOCUMENT	FAA COMMENTS
Classification and Applicability of Minima (AC 120-29A & AC 120-28D) ABC Airlines, Inc. is seeking CAT IIIA operations. ABC Airlines, Inc. will be conducting operations using approved autoland systems and procedures. There is no proof of concept (POC) required. The airplane and its associated systems have demonstrated the necessary level of accuracy, integrity, and availability. This was shown initially during the original equipment manufacture type certificate (OEMTC) airworthiness demonstrations. Compliance will be confirmed during the Operator Use Suitability Demonstration (OUSD) and will be monitored by ABC Airlines, Inc. on a continuing basis.	AFM, section 1, page 18 AFM, section 4, pages 4A, 5, 5A, 6, 7	
Takeoff Minima (AC 120-29A & AC 120-28D) ABC Airlines, Inc. takeoff minima are IAW OpSpecs C056 and C078 - IFR Takeoff Minimums, Part 121 Airplane Operations - All Airports and IFR Lower Than Standard Takeoff Minimums, 14CFR Part 121 Airplane Operations - All Airports .	Ops Specs CO 56 Ops Specs C078	
Landing (AC 120-29A & AC 120-28D) **Approach and Landing Concepts and Objectives (AC 120-29A)** ABC Airlines, Inc. is currently a CAT I operator. By this application and approval process, ABC Airlines, Inc. is seeking authorization for CAT II approaches to a decision height (DH) of not less than 100 feet with a runway visual range (RVR) of not less than 1200 feet.	AC120-29A, par. 4.3.1, pages 4-5 AC 120-28D, section 10.9, pages 79-80 AC 120-28D, section 10.12, page 81	

EXAMPLE 4. COMPLIANCE STATEMENT: FORMAT (MAINTENANCE)

SECTION 9

Continuing Airworthiness/Maintenance (Avionics)

Advisory Circular Reference	Source Document	FAA Comments
(15) Land Verify Test is required every 30 days to remain in CAT IIIA operational status	LLMCMP, page 5, par. E.1.b.3 LLMCMP, pages 10-11, Par.F.1.b	
9.3 Initial and Recurrent Maintenance Training (AC 120-29A) (a) ABC's CAT II/IIIA Personnel Maintenance Training program defines the Lower Landing Minima Continued Maintenance Program (LLMCMP) policies and procedures for low visibility and lower landing minima operations. Personnel qualifications, syllabi, and recurrent training are outlined in the maintenance training manual.	LLMCMP, page 9-10, par. E.1.j TSAA Maintenance Training Manual, section 6-02, page 22 TSAA maintenance Training Manual, section 7-02, page 37	

NOTE: A detailed explanation of evaluating maintenance and inspection programs for low approach landing minima is found in Appendix 4.

APPENDIX 2. OPERATOR USE SUITABILITY DEMONSTRATION

1. INTRODUCTION.

a. Purpose. The purpose of the Operator Use Suitability Demonstration (OUSD) is to demonstrate and validate the reliability and performance of lower minimum programs (LMP) in line operations consistent with the operational concepts specified in AC 120-29A and AC-28D as applicable. Demonstration requirements are established considering any applicable FAA FSB criteria, applicability of previous operator service experience, experience with a specific aircraft type by other operators, experience of crews of that operator and other such factors. The demonstration period is six months long for each phase (CAT II and CAT III) to permit the FAA to evaluate the ability of the operator to maintain and operate its proposed LMP system. During the demonstration period at least 10 percent of the required number of landings should be observed by an appropriately qualified FAA operations inspector. For this purpose, an appropriately qualified operations inspector is:

- For small piston and turboprop airplanes, or helicopters, qualified in the appropriate category and class;
- For large helicopters, qualified in a helicopter over 12,500 pounds;
- For large piston or turboprop airplanes, qualified in an airplane over 12,500 pounds:
- For small turbojets, qualified in the appropriate category and class;
- For large turbojets, qualified in a turbojet airplane over 12,500 pounds.

b. CAT II Demonstrations. For CAT II, at least one hundred (100) landings should be accomplished, at least a 95percent success rate, in line operations using the CAT II or CAT III system installed in each aircraft type, unless fewer approaches are determined to be appropriate by the CHDO. Examples of situations where fewer approaches than 100 may be authorized by the CHDO include credit for an operator also experienced in CAT II or III operations, addition of a different or new aircraft type for an operator when that aircraft type already has successful CAT II or III experience with a similar operator, or where the CHDO has consulted with the regional AWOPM and that person has determined that fewer approaches may apply (e.g., certain long range aircraft using CAT III procedures and training, but with interim limitations to use CAT II minima). The demonstration period should not be less than six months for operators seeking CAT II authorization. Experienced CAT II operators may operate new or upgraded aircraft types/systems, or derivative types, using reduced length demonstration periods (e.g., less than 6 months/100 landings) when concurrence is received by the POI from the regional AWOPM.

c. CAT III Demonstrations. For CAT III, at least one hundred (100) successful landings should be accomplished in line operations using the low visibility landing system installed in each aircraft type applicable to the CAT III authorization. Demonstrations may be conducted in line operations, during training flights, or during aircraft type or route proving runs. The

demonstration period should run for six months. Therefore, if an operator seeks CAT II initially and then CAT III subsequently, the total demonstration period will be 12 months.

d. Combined Programs. CAT II and CAT III programs may be initiated simultaneously for new operators or for existing operators currently approved for CAT I. Appropriate provisions of both AC 120-29, as amended, and AC 120-28D are used. Operational Suitability Demonstration programs may be simultaneously conducted as long as procedures and systems applicable to both CAT II and CAT III minima are assessed (e.g., use of CAT II DH vs. CAT III AH). The total demonstration period in this case should be no less than six months for the operator to gain CAT II and CAT III authorization.

e. If an excessive number of failures (e.g., unsatisfactory landings, system disconnects) occur during the landing demonstration program, a determination should be made for the need for additional demonstration landings, or for consideration of other remedial action (e.g., procedures adjustment, wind constraints, or system modifications).

f. During the period following the issuance of new or revised operations specifications for CAT III (typically 6 months), the operator must successfully complete a suitable operations demonstration and data collection program in line service for each type aircraft, as the final part of the approval process.

2. SAMPLE OUSD PLAN. What follows is an example of an OUSD plan that is acceptable to the FAA:

a. General This Operator Use Suitability Demonstration (OUSD) Plan contains direction, and guidance to be utilized by ABC Airlines, Inc personnel responsible for conducting and managing demonstration ILS coupled approach and automatic landings required for FAA issuance of Operations Specification C059, CAT II Instrument Approach and Landing Operations. It shall also provide applicable guidance and direction for required follow-on demonstration landings to be required for FAA issuance of OpSpec C060, CAT III Instrument Approach and Landing Operations.

(1) Responsibility and Authority. The Director of Operations is responsible for implementation of all operational procedures required by this OUSD plan. The Director of Maintenance is responsible for implementation of all maintenance procedures required by this OUSD plan. They are jointly responsible for providing routine and regular updates and feedback to ABC's POI, PMI, and PAI. Operational/Airworthiness Demonstrations, Aircraft System Suitability and Operational Use Suitability demonstrations must be completed as described in AC 120-29A, Criteria for Approving CAT I and CAT II Landing Minima for Approach, par. 10.5.1 and 10.5.2, unless otherwise specified by the CHDO. AC 120-28D, Criteria for Approval of CAT III Weather Minima for Takeoff, Landing and Rollout, specifies similar OUSD requirements for CAT III approval. Once ABC is approved for CAT II operations this plan will be updated with the appropriate CAT III OUSD requirements. The purpose of these operational demonstrations is to determine or validate the use and effectiveness of the applicable aircraft flight guidance systems, training, flightcrew procedures, maintenance program, and manuals applicable to the program being approved. ABC's B-737-800 FAA-Approved AFM references both ACs as the criteria used as the basis for both CAT II and CAT III airworthiness demonstrations, therefore our B-737-800 fleet is already considered to meet the provisions

of 10.5.1. This OUSD Plan is designed to address provisions of 10.5.2., requiring verification of operational use suitability for initial CAT II approval.

(2) Requirements. For CAT II authorization, at least one hundred (100) successful landings will be accomplished in line operations using the autoland system. It is a good practice to conduct at least one approach using the autoland system to each runway intended for CAT II operations in weather better than that requiring use of CAT II minima. Such demonstrations may be conducted in line operations, or during training or ferry flights. In any case every demonstration autoland must be conducted in weather equal to or greater than ABC's current CAT I operating minima; 200 ft DA, RVR 1800.

(a) If an excessive number of failures (e.g., unsatisfactory landings, system disconnects) occur during the landing demonstration program, a determination will be made for the need for additional demonstration landings, or for consideration of other remedial action (e.g., procedures adjustment, wind constraints, system modifications).

(b) The system must demonstrate reliability and performance in line operations consistent with the operational concepts specified in and required by OpSpec C059.

(c) Landing demonstrations will generally be accomplished on U.S. facilities or international facilities acceptable to the FAA. International facilities acceptable to the FAA are published at the AFS-410 Web site, http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs410/

(d) At ABC's discretion, demonstrations may be made on other runways and facilities if sufficient information is collected to determine the cause of any unsatisfactory performance (e.g., critical area was not protected). No more than 50 percent of the demonstrations may be made on such facilities.

(e) U.S. Facilities Approved for CAT II and CAT III Operations (For Information Purposes Only). These U.S. ILS facilities are approved for operators conducting CAT II or CAT III operations. The lowest CAT II minima is 1200 or 1000 RVR and the lowest CAT III minima is 600 RVR except where noted in this list and in the operators' OpSpecs or letter of authorization (LOA). All facilities have published 14 CFR part 97 CAT II or CAT III instrument approach procedures.

(f) Foreign Facilities Approved for CAT II and CAT III Operations (For Information Purposes Only/Requires prior AFS-400 approval). These foreign ILS facilities, listed by country, are approved for U.S. air carriers to conduct CAT II and/or CAT III operations, where indicated. Facility locations are determined according to the city and country of their physical location. Additional facilities may be approved by AFS-400 as provided in Order 8260.31, current edition.

NOTE 1: Every demonstration autoland must be conducted in weather equal to or greater than ABC's current CAT I operating minima; 200 ft DH, RVR 1800.

NOTE 2: For takeoff or landing operations less than 1200 RVR, air carriers must have low visibility training IAW AC 120-57, Surface Movement Guidance and Control System (SMGCS), current edition.

(3) Documentation.

(a) Tracking Autoland Approaches. ABC monitors aircraft maintenance performance trends through the Continuous Analysis and Surveillance Program (CASP). CASP is designed to assist in detection and correction of recurring problems in the B-737-800 fleet. CASP action is predicated on the Inbound Boeing ATA codes entered in the logbook. Should any ATA code be entered in the logbook three times or more in any 20-day period, the item will be flagged and analyzed for systemic corrective action by the Engineering department. Therefore it is extremely important for crewmembers to enter the correct ATA code when making logbook entries, particularly when related to the aircraft Autoflight system and Autoland performance. Flight crews will use Form ABC OUSD-1 (sample below) to record all unsatisfactory Autoland approaches. A logbook entry is also required for any unsatisfactory Autoland. Form ABC OUSD-1 will be left with the aircraft logbook for scanning into the maintenance tracking system (retained for one year). This information will also be retrieved by the CASP and published monthly in the Fleet Maintenance CASP Report. All Autoflight system history is also available in the maintenance tracking system by the applicable ATA chapter. The crew is responsible to notify dispatch of all Autolands by Aircraft Communications Addressing and Reporting System (ACARS) message at the end of each flight. Dispatch will ensure that Maintenance Control is notified of all Autolands in a timely manner so that appropriate record-keeping and maintenance action can be taken.

(b) Autoland Messages. Autoland messages are accessed through ACARS page 2 of the FLT Summary page, automatic approach:

FLIGHT SUMMARY page 2 : AUTOMATIC APPROACH

Enter required information as follows:

(1) Select YES;

(2) Enter RUNWAY used;

(3) Enter reported RVR visibility in feet

(4) Enter SAT or UNSAT as appropriate for the Autoland;

(5) Enter DISC ALT disconnect altitude in feet or enter 0 (zero) for full Autoland;

(6) SEND when all required fields are filled.

b. Reporting Requirements. Upon receipt of an ACARS, FLIGHT SUMMARY, AUTOMATIC APPROACH message in dispatch, Maintenance Control will enter all data on a CAT II OUSD tracking spreadsheet and forward the message to the following management personnel:

(1) Director of Operations, Captain Boe Sharp

(2) Director of Maintenance, Ken Johnson

c. Maintenance Control. During each Morning Meeting for the duration of this OUSD, Maintenance Control will brief all attendees as to the current status of OUSD landings including the following statistics:

- Autolands attempted: previous 24 hours
- Satisfactory autolands previous 24 hours
- Unsatisfactory autolands with preliminary reasons
- Total satisfactory autolands to date
- Total unsatisfactory autolands to date
- FAA feedback if any

(1) Should there be any unsatisfactory autolands reported, the Director of Maintenance and the Director of Operations are jointly responsible to determine whether maintenance factors, operational factors, or some combination thereof are responsible for the unsatisfactory autoland and to develop appropriate remedial procedures.

(2) Additionally, Maintenance Control is responsible for maintaining a current and inspectable OUSD file of all relevant email messages and B-737-800 Autoland Discrepancy Forms. This file may be maintained in electronic format or by the maintenance tracking system with scanned B-737-800 Autoland Discrepancy Forms.

d. Form ABC OUSD-1– B-737-800 Autoland Discrepancy Form. Flight crews will use form ABC OUSD-1 to record all unsatisfactory Autoland approaches. An unsuccessful autoland is defined as follows:

- Aircraft fails to maintain runway track satisfactorily
- Drift rate is excessive
- Aircraft does not touch down within the touchdown zone
- Auto Flight system does not maintain the aircraft within required performance parameters when within the Decision Region
- Any other performance abnormality, e.g., early Auto Flight disconnect, failure to ALIGN, failure to FLARE, failure to RETARD autothrottles, or failure to ROLLOUT properly

(1) A logbook entry is required for any unsatisfactory Autoland. Forms ABC OUSD-1-B-737-800 will be left with the aircraft logbook for scanning into the maintenance tracking system (retained for one year). This information will also be retrieved by the CASP and published monthly in the Fleet Maintenance CASP Report.

(2) All Auto flight system history is also available in the maintenance tracking system by the applicable ATA chapter. The crew is responsible to notify dispatch of all Autolands by ACARS message at the end of each flight.

(3) Figure 1 below constitutes Form ABC OUSD-1-B-737-800 Autoland Discrepancy Form.

e. Data Collection Requirements and Miscellaneous Considerations. Form ABC OUSD-1-B-737-800 Autoland Discrepancy Form was developed to allow the flightcrew to record unsatisfactory approach and landing performance. The resulting data and a summary of the demonstration data will be made available to the FSDO for evaluation. The data provided by ABC OUSD-1-B-737-800 forms includes the following information:

(1) Information regarding the inability to initiate an approach or identify deficiencies related to airborne equipment.

(2) Information regarding abandoned approaches, stating the reasons the approach was abandoned and the altitude above the runway at which the approach was discontinued or the automatic landing system was disengaged.

(3) Information regarding any system abnormalities, which required manual intervention by the pilot to ensure a safe touchdown or touchdown and rollout, as appropriate

(4) Data Analysis. Unsatisfactory approaches using facilities approved for CAT II or CAT III where landing system signal protection was provided should be fully documented. The following factors should be considered:

(a) ATC Factors. ATC factors that result in unsuccessful approaches should be reported. Examples include situations in which a flight is vectored too close to the final approach fix/point for adequate localizer and glide slope capture, lack of protection of ILS critical areas, or ATC requests for the flight to discontinue the approach.

(b) Faulty NAVAID Signals. NAVAID (e.g., ILS localizer) irregularities, such as those caused by other aircraft taxiing, over-flying the NAVAID (antenna), or where a pattern of such faulty performance can be established should be reported.

(c) Other Factors. Any other specific factors affecting the success of CAT II operations that are clearly discernible to the flightcrew should be reported. An evaluation of reports discussed above will be made to determine system suitability for authorization for CAT II operations.

FIGURE 1. SAMPLE AUTOLAND DISCREPANCY FORM

ABC OUSD-1– B-737-800 Autoland Discrepancy Form.

This form will be completed whenever an approach is attempted using the airborne low approach system, regardless of whether the approach is abandoned or concluded successfully.

CAT II/IIIa APPROACH EVALUATION

CAT II ❑ CAT IIIa ❑ Autoland Yes ❑ No ❑

Pilot-in-Command (PIC) _____

Second-in-Command (SIC) _____

Date _____ Registration No. _____ Airport ID_____
Rwy_____ Wx _____ Wind _____

APPROACH EVALUATION:

Was the approach successful? Yes _____ No _____

Flight control guidance system used:

Auto-coupler _____

Flight director _____

Airspeed at middle marker ± at _____ 100' ± _____ from programmed speed?

If unable to initiate _____ or complete _____ approach (indicate which), indicate the cause:

Airborne equipment _____ Identify and describe nature of deficiency.
_____
_____
_____

Ground equipment _____ Identify and describe nature of deficiency.
_____
_____
_____

ATC _____

Other _____ State reason:

_____

------See Criteria on rear of this form-----

FIGURE 1. SAMPLE AUTOLAND DISCREPANCY FORM. (Continued)

(Rear)

AUTOLAND CRITERIA. An unsuccessful autoland is defined as follows:

(5) Aircraft fails to maintain runway track within +/- 22 feet of centerline;

(6) Drift rate exceeds 2 feet per second;

(7) Aircraft does not touch down within the touchdown zone;

(8) Auto Flight system does not maintain the aircraft within required performance parameters when within the Decision Region;

(9) Any other performance abnormality, e.g., early Auto Flight disconnect, failure to ALIGN, failure to FLARE, failure to RETARD autothrottles, or failure to ROLLOUT properly.

A logbook entry is required for any unsatisfactory Autoland.

(10) Use of Autoland at U.S. Type I Facilities or Equivalent. For CAT I, Autoland may typically be used at runways with facilities other than those with published CAT II or III Instrument approach procedures. This is to aid pilots in achieving stabilized approaches and reliable touchdown performance to improve landing safety in adverse weather; for CAT II or III training; to exercise the airborne system to ensure suitable performance; for maintenance checks; or for other such reasons. Use of this capability may be particularly important for: pilot workload relief in stressful conditions of fatigue after long international flights; night approaches; cross winds or turbulence; when there may be other aircraft non-normal conditions being addressed; or to aid safe landing performance in otherwise adverse weather, restricted visibility, or with cluttered runways. This is true even though reported visibility may be well above minima (e.g., heavy rain distorting view out the windshield, snow covered runways where markings are not easily visible).

(11) The following precautions must be observed when conducting autolands:

(a) The runway and associated instrument procedure should have no outstanding NOTAMs or other applicable Notes concerning the procedure precluding the use of the autoland system (e.g., it should not have notes such as Localizer unusable inside the threshold, or Glide Slope unusable below xxx ft.);

(b) Suitable ILS Critical Area protection (or equivalent) should be requested from ATC, if applicable. Similar to precautions for a CAT II or III procedure, the crew should remain alert to detect any evidence of unsuitable system performance, whether or not critical protection is being provided;

(c) The published ILS glide slope threshold crossing height (or equivalent) should be at least equal to or greater than 47 feet; and

(d) The particular runway or procedure should not be precluded for Autoland operations by the operator due to known performance anomalies (e.g., not on a list of runways ineligible for or precluded from autoland operations as determined by ABC).

(12) Eligible Airports and Runways. For CAT II, an assessment of eligible airports, runways, and aircraft systems must be made in order to list appropriate runways on OpSpecs. For CAT II, runways authorized for particular aircraft IAW existing operations listed on the AFS-400 CAT II status checklist may be directly incorporated in OpSpecs, or incorporated by reference if published part 97 SIAPS are available. Aircraft type/runway combinations not shown should be verified by aircraft system use in line operations at CAT I or better minima, prior to authorization for CAT II. Airports/aircraft types restricted due to special conditions (e.g., irregular underlying terrain) must be evaluated prior to OpSpec authorization. A status checklist for facilities that have special CAT I and II provisions and published CAT II or III procedures, FAA CAT II/III Status List, is available at the AFS-410 Web site at http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs410/

(13) Irregular Pre-Threshold Terrain and Other Restricted Runways. Airports/runways with irregular prethreshold terrain, or runways restricted due to NAVAID or facility characteristics (see FAA CAT II/CAT III Status Checklist) may require special evaluation, or limitations. Should ABC intend to use CAT II or autoland procedures at these specified runways, prior coordination and approval is required.

(14) Restricted U.S. Facilities Approved for CAT III Operations. (Requires Prior AFS-400 Approval). These U.S. ILS facilities are approved only for certain aircraft to conduct CAT III operations. The characteristics of the pre-threshold terrain at these facilities may cause abnormal performance in flight control systems. Additional analysis or flight demonstrations are required for each aircraft type prior to approval of CAT III minima. Publication of a 14 CFR part 97 standard instrument approach procedure or additional air carriers and their aircraft may be approved by AFS-400 as provided in AC 120-28, appendix 8, current edition. Approved aircraft are equipped with either autoland or HGS equipment.

NOTE: Every demonstration autoland must be conducted in weather equal to or greater than ABC's current CAT I operating minima; 200 ft DA, RVR 1800.

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APPENDIX 3. ISSUANCE OF CAT II/III LANDING MINIMA

1. FOR THE OUSD PHASE: Validation of CAT II/III Maintenance Programs.

a. General. The OUSD phase consists of two sub phases:

(1) The first sub phase is referred to as the OUSD landing phase. During this period the operator conducts the number of landings (normally 100) using the CAT II or CAT III systems approved in the previously submitted OUSD plan. The weather minima used by the operator is prescribed as one step higher than the CAT II/III authorization being applied for. In other words a CAT II applicant must conduct 100 landings in CAT I (or better) weather conditions. A CAT III applicant must conduct 100 landings in CAT II or better weather. A success rate of 90 percent is required.

(2) The first sub phase is completed after a success rate of 90 percent has been achieved during the OUSD landing phase. The second phase, the OUSD Demonstration phase, begins after completion of the first sub phase when the POI issues the appropriate OpSpecs/Mspecs/LOA with the appropriate restricted lower minima and any other required restrictions. After successful completion of the OUSD demonstration sub phase unrestricted minima are issued by the POI.

(3) The second sub-phase, referred to as the OUSD Demonstration phase commences from the date of the first OUSD landing concurrently for a period of six months. To initiate this phase the POI/Program Manager issues the appropriate OpSpecs/Mspecs/LOA with the appropriate lower minima and any other required restrictions. After successful completion of the OUSD demonstration sub phase unrestricted minima are issued by the POI with concurrence from the regional AWOPM.

b. Achieving Lower Minima. Special design requirements and special maintenance programs are necessary to achieve the airborne system reliability required for the conduct of CAT II/III operations. The special maintenance programs necessary for CAT II/III operations are extensive and expensive and are usually the largest factors affecting an operator's decision of whether to conduct these operations.

(1) When an operator/program manager requests authorization to conduct operations with aircraft equipped with standard CAT II equipment, and that operator is new to CAT II operations, CAT II operations are usually restricted (for at least 6 months) to higher-than-standard operating minima (DH 100 and RVR 1600). These are the minima issued after successful completion of the OUSD landing phase outlined above. This restriction must remain in place until the operator has successfully validated its maintenance program (the OUSD Demonstration phase outlined above) IAW AC 120-29 (as amended) and the lower landing minima (LLM) maintenance program outlined in Order 8300.10, volume 2, chapter 3. However, if an aircraft has a type design approval for CAT III operations, it may be possible for the operator to be initially authorized for standard CAT II minima

(DH 100 and RVR 1200) with those aircraft if certain equipment restrictions and operating procedures are specified in the operator/program manager's OpSpecs/Mspecs/LOA.

(2) If the operator requests to eliminate the 6 months restriction (DH 100 and RVR 1600) based on operational credit for the use of CAT III systems to conduct CAT II operations, the operator OpSpecs/Mspecs/LOA must include a limitation that specifies all CAT II operations using DH 100 and RVR 1200 for U.S. ILS Type II facilities and DH 100 and RVR 1000 at foreign airports and U.S. ILS Type III facilities must be conducted with the airborne equipment operating to CAT III standards. This limitation should read fail passive autoland only, or fail passive/fail operational autoland only, as appropriate, for aircraft equipped with CAT III automatic landing systems, or fail passive HGS only for aircraft equipped with CAT III HGSs. For DH 100 and RVR 1200 operations, these restrictions must remain in the operator OpSpecs/Mspecs/LOA until the CAT II maintenance program for that aircraft is successfully validated. These restrictions must remain in the OpSpecs/Mspecs/LOA for DH 100 and RVR 1000 operations at foreign airports and U.S. ILS Type III facilities, even after the maintenance program is validated.

(3) When the operator has successfully validated its maintenance program, the restriction that requires the airborne equipment to be operated to CAT III standards can be removed by amending the operator/program manager's OpSpecs/Mspecs/LOA to authorize the use of DH 100/RVR 1200 minima with standard CAT II equipment (e.g., single channel autopilot, or manually flown (HGS) operations). The CAT III equipment would still be required to conduct any operations with operating minima of DH 100 and RVR 1000 for CAT II operations at foreign airports and U.S. ILS Type III facilities. In standard CAT II operations, the objective of the requirement for an operator/program manager to validate the CAT II maintenance program for at least 6 months with minima restricted to DH 100 and RVR 1600 is to ensure that the required level of airborne equipment reliability is achieved. This is to ensure that frequent malfunctions will not occur in standard CAT II operations (DH 100 and RVR 1200). The design features of CAT III airborne equipment significantly reduce the potential for failures that could adversely affect standard CAT II operations. As a result, validation of the CAT II maintenance program before conducting operations to DH 100/RVR 1200 is not necessary if these operations are conducted under a restriction that requires the airborne equipment to operate to CAT III standards (e.g., fail passive or fail operational automatic landing). This permits the operator/program manager to conduct operations with standard CAT II minima during the 6-month period used to validate its maintenance program.

c. Authorizing DH 100 and RVR 1000 for Certain CAT II Operations. CAT II operations with DH of 100 feet and RVR 1000 can only be authorized at specific foreign airports and at U.S. ILS Type III facilities. These operations can only be authorized when conducting an autoland approach or using an HGS to touchdown. The limitation in the OpSpecs/Mspecs/LOA should read fail passive autoland only, or fail passive/fail operational autoland only, as appropriate, for aircraft equipped with CAT III automatic landing systems, or fail passive HGS only for aircraft equipped with CAT III HGSs.

d. New CAT II Operators. New operators should follow the demonstration period provisions (normally 6 months) in the approved OUSD plan. Additionally, typical acceptable minima step down provisions approvable by FAA are as follows:

- Starting from CAT I to CAT II: First DH 100/RVR1600, then DH 100 and RVR 1200 (AC 120-29A, section 10.9, page 132)

e. New CAT III Operators. New operators should follow demonstration period (6 month) provisions provided for in the approved OUSD. Additionally, typical acceptable minima step down provisions approvable by FAA are as follows:

(1) Starting from CAT I:

- Fail - Passive Landing System 100 ft. DH/RVR1000 then 50 ft. DH/RVR600
- Fail - Operational Landing System 100 ft. DH/RVR1000 then RVR600, then RVR300

(2) Starting from CAT II:

- Fail - Passive Landing System 50 ft. DH/RVR600
- Fail - Operational Landing System RVR600 then RVR300 (AC 120-28D, section 10.9, page 77)

f. Experienced CAT II Operators Seeking CAT III Authorization.

(1) Operators with previous CAT II experience may warrant a reduction in the OUSD requirements based on their previous experience. All approach/autolands should be conducted using the operator's approved CAT III procedures.

(2) If the operator is seeking CAT III approval on the same make/model aircraft it was previously authorized CAT II approval, the OUSD should require a minimum of 50 approach/autolands (OUSD landing sub-phase) at CAT II or better minima. Then the CAT III minima are issued as follows:

- Fail – Passive Landing System 50 ft. DH/RVR600
- Fail – Operational Landing System RVR300

NOTE: The operator is still required to report their CAT III Approach/landing information (OUSD Demonstration sub-phase) for a six month period commencing with the first CAT III approach/autoland.

(3) If the operator is seeking CAT III approval on a different make/model series aircraft than it was previously authorized CAT II approval, the OUSD should require a minimum of 50 approach/autolands (OUSD Landing sub-phase) at CAT I or better minima. Then the CAT II minima are issued as follows:

- Fail - Passive Landing System 100 ft. DH/RVR1200
- Fail - Operational Landing System 100 ft. DH/RVR1000

(4) Following successful completion of the OUSD Demonstration sub-phase, which commences for a six month period with the first CAT III approach/autoland, the operator is issued the CAT III minima as follows:

- Fail – Passive Landing System 50 ft. DH/RVR600
- Fail – Operational Landing System RVR300

NOTE: The operator is still required to report their CAT III Approach/landing information (OUSD Demonstration sub-phase) for an additional six month period (for a total of twelve months) commencing with the first CAT III approach/autoland.

2. AFTER THE DEMONSTRATION PHASE.

a. Approval of Landing Minima. When the data from the operational demonstration has been analyzed and found acceptable, an applicant may be authorized the lowest requested minima consistent with this Order and applicable OpSpecs/MSpecs/LOA. Several examples are provided below:

(1) For CAT III, fail passive operations where the operator was initially authorized RVR1000 to begin a demonstration program, following successful demonstration that operator may be authorized to operate to minima of RVR600.

(2) For CAT III fail operational operations, where the operator was initially authorized RVR1000 to begin a demonstration program, following successful demonstration that operator may be authorized to operate to minima of RVR600 or RVR300 as applicable.

(3) If the CAT III rollout control system has been shown to meet the appropriate provisions of Appendix 3 of AC-120-28D, and the airborne and ground systems including applicable ILS, GLS or MLS, Surface Movement Guidance and Control (SMGCS), and weather reporting (e.g., RVR) are each suitable, then operational approvals for operations below RVR300 may be authorized. Such authorizations are considered only for specific facilities on a case-by-case basis.

b. OpSpecs/MSpecs/LOAs.

(1) All standard CAT II/III operations are restricted to airports and runways that meet the special safety requirements necessary for CAT II/III operations. Within the United States, all approved CAT II/III airport and runway operations are conducted IAW approved CAT II/III IAPs published in part 97. U.S. CAT II/III operations shall only be conducted IAW an approved part 97, CAT II/III IAP. In foreign countries, CAT II/III operations conducted by U.S. operators/program managers are restricted to those runways approved IAW Order 8400.8 (CAT II/III status list). Even though a particular runway is approved for CAT II/III operations, an operator/program manager cannot be authorized to conduct CAT II/II operations at that location until that particular CAT II/III operation is authorized in the operator/program manager's OpSpecs/Mspecs/LOAs.

(2) Ops Specs/MSpecs authorizations are issued IAW the guidance, direction and procedures found in FAA Order 8400.10, Volume 3, Section 5, Part C Operations Specifications-Airplane Terminal Instrument Procedures and Airport Authorizations and Limitations. LOAs are issued IAW the guidance, direction and procedures found in FAA Order 8700.1, volume 2, chapter 59.

APPENDIX 4. MAINTENANCE/INSPECTION PROGRAMS FOR LOW APPROACH LANDING MINIMUMS

SECTION 1. BACKGROUND

1. PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODES.

a. Maintenance: 3435.

b. Avionics: 5435.

2. OBJECTIVE. This Appendix provides guidance for evaluating applications for lower approach and landing minima in respect to the appropriate support program.

3. GENERAL.

a. Responsibilities.

(1) The Avionics aviation safety inspector's (ASI) primary responsibility is to provide technical support to the Operations ASI and the applicant. The responsibility for monitoring all applicants during the evaluation period should be coordinated between the Avionics and Operations ASIs, to include:

- Approvals
- In-flight evaluation observations
- Surveillance

(2) The applicant is responsible for obtaining and submitting all documents that establish the eligibility of its aircraft, such as:

- The required maintenance/inspection program necessary for continued eligibility The applicant's Minimum Equipment List (MEL), with the limitations for CAT I operations, if applicable
- An acceptable means for maintaining the reliability of the flight guidance control and associated systems

b. Qualifications for Low Approach Landing.

(1) Minimums. Low approach and landing minima are issued to qualified operators operating under Title 14 of the Code of Federal Regulations (14 CFR) part 91, 121, 125, 129, or 135. While the operating rules for each of these authorizations may vary significantly, the approval guidelines do not. Approval for low or minimum approaches in all categories will require regulatory compliance in the following three major areas:

- Airborne equipment and systems
- Flightcrew and maintenance personnel qualifications
- Lowered minimum procedures, including a maintenance/inspection program

(2) Deviations. Deviations will not be made without coordination between the Avionics and Operations ASIs. All requests for deviations must be forwarded to the Regional Flight Standards Division All Weather Operations Program Manager (AWOPM) by the Principal Inspector. The applicant will be advised not to proceed in operating under its lower minimum proposal until the deviation request is resolved.

4. CATEGORY I OPERATIONS. The Avionics ASI's responsibilities for CAT I authorizations are to evaluate the flight director and/or autopilot systems. The principal operations inspector (POI) is responsible for determining the overall suitability of an operator's CAT I capabilities.

5. CATEGORY II EQUIPMENT APPROVAL UNDER PARTS 91 AND/OR 135 (9 OR LESS).

a. Lower Approach Minimum Approval. An application for lower approach minimum authority will specify the basis for the aircraft approval to conduct lower minimum approaches. This authority will be based on:

- Type certification and the Airplane/Rotorcraft Flight Manual
- Supplemental type certification
- Operational evaluation (OUSD)
- Any acceptable combination of the above

b. Requirements for CAT II Approval.

(1) Requirements for CAT II approval for general aviation operators have been established in part 91, §§ 91.189, 91.191, 91.193, 91.205, and appendix A (see the note below). These sections specify:

- Required instruments and items of equipment
- Methods of approval
- Evaluation program conduct
- Calibration standards
- Maintenance/inspection programs

NOTE: There has been some doubt whether the provisions of appendix A are binding for CAT II/III operations. Appendix A is mentioned in § 91.205(f)(2);

however, that provision applies only to the required equipment. Without specific reference in the regulations to maintenance provisions in appendix A, there is no regulatory requirement to use appendix A.

(2) Advisory Circular (AC) 91-16, CAT II Operations—General Aviation Airplanes, as amended, is available to assist operators in developing and obtaining approval of CAT II equipment installations and maintenance/inspection programs.

c. Operational Evaluation Programs. Engineering coordination should be requested when necessary, particularly for those aircraft in which the functions and limitations of the automated systems are significant factors for safe operation.

d. Flight Director Systems. Avionics ASIs will be aware that single flight director systems with dual displays in which the second display repeats only the Instrument Landing System (ILS) information on the pilot's display will not meet the requirements for two ILS receiving systems.

e. Optional Avionics Equipment. Optional avionics equipment installed by the operator will either be approved in the field or referred to the Aircraft Certification Office (ACO) for an engineering evaluation. The evaluation can assist in determining if flight testing is required, what limitations may apply, and whether or not the installation may require a Supplemental Type Certificate (STC). If an STC is required, Avionics ASIs will assist in the accomplishment of a compliance and conformity inspection, as necessary, when requested by the ACO. Optional equipment that may be installed and require approval includes the following:

- Flight director systems
- Automatic throttle control systems
- Autopilot and approach coupler systems
- Speed control command systems
- System fault detection and warning systems
- Radio altimeters

f. Alterations. ASIs should carefully review proposals to alter installed avionics equipment required for a particular category of operation and handle them IAW established procedures. Each proposal should be evaluated for its affect on system performance, compatibility with the original standard, and compliance with CAT II criteria.

(1) When manufacturer-proposed alterations to existing avionics equipment appear to be major, the ASI will verify the approval status before sanctioning incorporation of the change by the operator. If Federal Aviation Administration (FAA) approval of the alteration is not clearly indicated in the manufacturer's instructions, the operator will obtain such approval before performing the alteration.

(2) An Avionics ASI will exercise caution with respect to the field approval of alterations. The Avionics ASI must verify that the alteration is being made IAW approved

technical data and that the technical evaluation is clearly within the scope of the Avionics ASI's training, experience, and approval authority.

(3) ASIs will also carefully examine alterations originating in an operator's engineering department and, when necessary, refer them to the appropriate ACO.

6. CATEGORY II/III EQUIPMENT APPROVAL UNDER PART 121/135 (10 OR MORE).

a. Large Aircraft Criteria. Operators using large aircraft operating under part 121 shall meet the requirements in this Notice.

> **NOTE: AC 120-28, Criteria for Approval of CAT III Weather Minima for Takeoff, Landing, and Rollout, or AC 120-29, Criteria for Approval of CAT I and CAT II Weather Minima for Approach, as amended, are available to assist operators in developing and obtaining approval of CAT II/III equipment installations and maintenance/ inspections programs. References to the AC parts are contained in the Job Aid included at the end of this appendix.**

b. Turbojet Criteria. All operators using turbojet aircraft must comply with the aircraft systems evaluation criteria that apply to part 121 operators. Applicants certificated under part 135 using turbojet aircraft will also use the aircraft equipment evaluation standards.

c. Systems Evaluation Approval. Systems evaluation approval should be accomplished IAW AC 91-16, 120-28, or 120-29, as applicable.

d. CAT II/III.

(1) The aircraft requirements for lower landing minima (LLM) include requirements for the total aircraft performance and associated systems. The acceptance of an aircraft in either category must be completely based on performance and approved FAA data.

(2) Upon receiving an operator's request for LLM authorization, the assigned Avionics ASI should immediately contact the type certificating office. This action is to determine whether the aircraft has been approved for such operation and what equipment and systems have been approved. If the aircraft has not been LLM certified, the ASI should request assistance from the appropriate ACO so that an application for an STC can be properly consolidated.

7. CONTINUOUS AIRWORTHINESS PROGRAM FOR LOWER LANDING MINIMUMS (LLM).

a. This Appendix outlines the requirements for the continuous airworthiness program. This type of operation will need a detailed evaluation supported by well-defined maintenance, training, and reliability programs. All maintenance and reliability supporting documents become part of the accepted program. A monthly utilization/reliability summary will be established for the applicable aircraft and is given to the FAA for the initial data collection/demonstration period of 1 year. Quarterly reporting after the initial period will be accomplished IAW the certificate holder's reliability.

b. The initial program should also include appropriate programs identified in the Maintenance Review Board (MRB) document. The frequency of maintenance actions may be revised when sufficient experience has been gained to justify a change and when there is no conflict with the certification requirements. MRB-specified tasks and/or other approved maintenance procedures may be revised to ensure the required airborne equipment will continue to meet total system performance, accuracy, availability, reliability, and integrity for the operation.

c. The reliability of systems and/or components set forth as substantiation for the LLM certification becomes the performance criteria for the program.

(1) Controlled monitoring of the LLM system reliability will require that the operator, after initial evaluation, incorporate the pertinent systems and components into the approved reliability program. If the LLM system reliability does not meet the approved program, the operator will be allowed a reasonable time period in which to improve the reliability.

(2) The ACO responsible for the type certification should be advised when the monthly removal rate is exceeded and informed of the probable cause. The reliability reporting is necessary, when operational approval was based on probability analysis.

d. The maintenance manual will identify all special techniques, maintenance/inspection frequencies, and test equipment requirements to support the program. It will also specify the method of controlling the operational status of the aircraft. Those technicians qualified to release an aircraft for LLM must be identified.

e. The operator's procedures must include a method for manual distribution to assure availability to the appropriate maintenance facility.

f. Operators will show the method of approval of required equipment as listed in the maintenance portion of the manual.

g. The operator must provide an approved training and recurrent training program. The list of personnel must be current. All maintenance personnel authorized to carry out this approved maintenance program must have training on the applicable aircraft systems and the approved policy and procedures of the certificate holder's approved LLM aircraft maintenance program authorization. Only those persons trained and qualified should be permitted to perform LLM maintenance/inspections.

h. The operational demand for LLM airborne systems with exposure to numerous hidden functions requires that the aircraft be either periodically exercised or functionally checked. This is to ensure that all systems are operational and that no dormant failure has occurred. The initial program will provide either a periodic LLM approach or periodic system functional check.

i. Until sufficient experience and data is available (excluding the 6-month demonstration), it is recommended the aircraft status period not exceed 35 days. Failure to exercise the system by simulated LLM approach or functionally checking the system within 35 days should automatically place the aircraft in a non-LLM status. The aircraft must maintain this status until the required functional check is made.

8. PROGRAM DEVELOPMENT.

a. Initial Development. At the time of formal application, the Avionics ASI will begin to monitor development activity. Participation in all meetings with an applicant will usually require coordination with the Operations ASI. It is important for the operator to include all key personnel in any meetings.

b. The Operator's Lower Minimums Program. The operator's lower minima program must be developed and the procedures used during the evaluation period. Part D OpSpecs must reflect all special LLM maintenance requirements that were developed to support repetitive evaluation of LLM systems and equipment.

9. MAINTENANCE/ INSPECTION PROGRAMS. The proposed maintenance/ inspection programs must be tailored to the applicant's operations and maintenance organization. All maintenance and reliability supporting documents become part of the accepted program.

a. Requirements for Maintenance/Inspection Programs. Maintenance/inspection programs will provide for the proper maintenance and inspection of equipment and aircraft systems.

b. Control and Accountability. Emphasis will be placed on control and accountability of all areas associated with LLM approvals. These areas primarily encompass the following:

- Initial and recurrent training on flight guidance control systems
- The use of test equipment
- The differences in aircraft systems between aircraft in an operator's fleet
- Special procedures for airworthiness release and control of the aircraft approach status
- Initial and recurrent training in all areas of the lower minima program
- Training for new personnel and equipment types

c. Operational Status of the Aircraft. The method for controlling the operational status of the aircraft lower minimum required equipment must ensure that flight, dispatch, and maintenance personnel are kept aware of the current status.

d. Purchase of Avionics Equipment Package Installations. Some manufacturers and repair stations may develop general aviation maintenance/inspection programs in conjunction with their CAT II avionics equipment installation package. The contents of such programs should be thoroughly evaluated for compliance and maintainability with LLM regulations.

e. Requalification Procedures. The program must include procedures for requalification of an aircraft for lower minima following maintenance on any required system. This must include tests after replacements, resetting in rack, and interchange of components.

f. Approval. The Avionics ASI will indicate approval of the maintenance program portion of the operator's CAT II/III manual by signing and dating each page of the program.

10. MAINTENANCE TRAINING PROGRAMS. Avionics ASIs, during the course of normal surveillance, will evaluate the maintenance facilities performing CAT II/III equipment maintenance to ensure that the training provided meets the requirements of lower minimum standards.

11. EXISTING CONTINUOUS AIRWORTHINESS PROGRAMS.

a. Programs can be developed to be compatible with the existing maintenance/inspection program, provided there is a clear distinction between normal and lower minimum requirements.

b. When an operator's proposal is based on an existing maintenance/inspection program, the ASI must ensure that all procedures will provide for the lower minima program requirements. Caution will be exercised when an applicant has used a program approved for use by another operator for developing its own.

c. The following areas of the proposal and or existing programs will be closely reviewed:

- The existing maintenance or inspection program
- The existing reliability program
- The training program
- The initial evaluation checks for existing aircraft and for new aircraft
- The existing parts pool, borrowed parts procedure, and control of spare parts

d. An operator's existing reliability program may be accepted when shown to be adequate for its lower minimum operations.

12. TEST EQUIPMENT AND STANDARDS.

a. Performance Standards, Tolerances, and Calibration Procedures.

(1) Performance standards, tolerances, and calibration procedures applicable to ILS equipment have been adequately covered by:

- Technical Standard Orders (TSO)
- Radio Technical Commission of Aeronautics (RTCA) documents
- Manufacturers' instruction manuals

(2) These standards or their equivalent are generally considered acceptable for inclusion in maintenance/inspection programs for equipment operated to landing minima of CAT I. Such standards may not be adequate for CAT II/III. Those, which will not provide category system performance, will be revised to provide the required level of performance.

b. LLM Tolerances. In many cases, the tolerances for CAT II/III airborne equipment are more rigid than those for CAT I. Therefore, the equipment used to inspect, test, and bench check CAT II/III equipment may require more frequent test and calibration.

c. Established Standards and Tolerances. Standards and tolerance established in the maintenance/inspection program for testing and calibrating airborne equipment and systems that are required for CAT II/III operations will not be relaxed following program approval without adequate substantiation that system performance will not be degraded.

d. Built-In Test Equipment (BITE) Test and Return to Service.

(1) The BITE test is a maintenance tool that can be used for return to service if certified by the aircraft manufacturer. The proper procedure for return to service is to perform an operational ground or functional flight check. The procedures in the manufacturer's maintenance manual, including the provisions of BITE, the fault isolation manual, the aircraft maintenance manual, and the operator's FAA-Approved minimum equipment list are all essential portions in the process for an aircraft to be returned to service.

(2) For those aircraft for which BITE is minimal or non-existent or that have a mix of digital and analog equipment, then a more comprehensive functional test using test procedures and equipment prescribed in the manufacturer's maintenance manual will need to be accomplished before approval to return to service. On repeat discrepancies, the functional test must consist of the most comprehensive test in the maintenance manual for aircraft that have different levels of test complexities.

(3) The CAT II/III maintenance manual will address the procedures for return to service.

13. MAINTENANCE PERIOD EXTENSIONS: GENERAL AVIATION.

a. Applications For Extensions.

(1) The Flight Standards District Office (FSDO) will consider applications for extensions of maintenance periods for general aviation operators at the completion of one maintenance cycle of at least 12 calendar months. Operators should apply to the FSDO having jurisdiction of the area in which the operator is located.

(2) The FSDO will consider the following factors in granting an extension:

- Records of CAT II approaches due to malfunctioning equipment
- Number of CAT II approaches (actual and simulated)
- Maintenance records of CAT II equipment failures
- Service history of known trends toward malfunctioning
- Unit mean time between failures
- Records of functional flight checks

b. Check, Test, and Inspection Extensions. Extensions to the check, test, and inspection periods may be granted if factors indicate that the performance and reliability of the CAT II/III instruments and equipment will not be adversely affected. General aviation extension periods, in most cases, would be one calendar month for tests, inspections, and functional flight checks, and four calendar months for bench checks. The operator's program should include procedures for obtaining the extensions.

c. Increased Extension Periods. The extension periods suggested in paragraph 13B may be increased at the discretion of the Avionics ASI.

14. FUNCTIONAL FLIGHT CHECKS. Some operators have submitted programs that provide for functional flight checks. This procedure must not be approved unless all airworthiness requirements have been satisfied before dispatch. In no instance can a functional flight check be substituted for the certification of complete systems or equipment operation.

15. REPORTS AND RECORDS.

a. Responsibilities of Recordkeeping. The owner/operator's organization will provide training to persons responsible for these reports in appropriate parts of the proposed LLM program.

b. CAT III or Any Autoland Category. Operators authorized for any Autoland category will provide reports of airborne equipment malfunctions during actual approaches. They will submit the reports on a yearly basis to the FAA or at any time the malfunctions significantly affect the Autoland capability.

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SECTION 2. PROCEDURES

1. PREREQUISITES AND COORDINATION REQUIREMENTS.

a. Prerequisites:

(1) Knowledge of the regulatory requirements of parts 91, 121, 125, 129, and 135, as applicable.

(2) Successful completion of the Airworthiness Inspector Indoctrination course(s), or previous equivalent.

b. Coordination. This task requires coordination with the Avionics and Operations ASIs, the applicant, and ACO, if necessary.

2. REFERENCES, FORMS, AND JOB AIDS.

a. References (current editions):

- 14 CFR parts 23, 25, and 61
- AC 91-16, CAT II Operations—General

(1) Aviation Airplanes.

- AC 120-28, Criteria for Approval of CAT III Weather Minima for Takeoff,

(2) Landing, and Rollout.

- AC 120-29, Criteria for Approval of CAT I and CAT II Weather Minima for Approach

b. Forms. None.

c. Job Aids:

- Figure 1 (this section)

3. PROCEDURES.

a. Review the Maintenance/Inspection Program. Review the applicant's maintenance/inspection program to ensure that it contains control and accountability over the following:

(1) All maintenance accomplished on lower minimum required systems and equipment.

(2) All alterations to systems and equipment.

(3) Approach status of each aircraft at all times.

(4) Return to service procedures to upgrade aircraft to CAT II/III status.

(5) Spare equipment.

(6) Maintenance calibration, use of test equipment, records/reporting requirements.

(7) Repetitive and chronic discrepancies to ensure the affected aircraft remains out of lower minima approach status until positive corrective actions is made.

(8) All aircraft in the fleet that have not been evaluated for lower minima approaches.

b. Review the Existing Maintenance/Inspection Programs. Ensure that the existing maintenance/ inspection program has procedures for the following:

(1) Identifying chronic discrepancies and corrective action follow-up.

(2) Keeping aircraft with chronic and/or repetitive discrepancies out of a lower minimum status until positive corrective action is taken.

(3) Training maintenance personnel assigned to reliability analysis.

(4) Conducting initial evaluation checks for existing aircraft and for new aircraft to the fleet before inclusion in the operator's lower minimum operations.

(5) A means for identifying all CAT II/III components used in the applicable aircraft systems in the existing parts pool, parts borrowing procedure, and control of spare parts.

(6) Ensuring that calibration standards for all test equipment used for maintaining lower minimum systems and equipment are met.

(7) Ensuring that each flightcrew and persons with operational dispatch authority are aware of any equipment malfunction that may restrict lower minimum operations.

(8) Submitting any changes to the LLM maintenance program to the FAA for acceptance and approval by the principal avionics inspector (PAI) before any changes are adopted.

c. Review the Functional Flight Checks. If a functional flight check has been submitted, ensure that the following information is included:

(1) Maintenance clearance and/or concurrence before an aircraft is returned to a lower minimum status, even if the functional flight check was found to be satisfactory.

(2) Request for a flight check by maintenance in the aircraft log.

(3) Maintenance entry acknowledging the results and the action taken.

d. Evaluate the Supporting Data. Unless the applicant provides supporting approval data, the Avionics ASI will coordinate with the Operations ASI and the ACO responsible for the type certificate to determine the acceptability of each aircraft for the authorizations requested.

e. Review the Minimum Equipment List (MEL). Appropriate sections of the MEL must be revised to identify CAT II/III required systems and special procedures, if applicable.

f. Review the Personnel Training Requirements. Ensure there are procedures for the following:

(1) All maintenance personnel involved and authorized to carry out this approved maintenance program must have initial and recurrent specialized training on the applicable aircraft systems and the approved policy and procedures of the certificate holder's approved LLM aircraft maintenance program authorization.

(2) Ensuring personnel contracted to perform CAT II/III related maintenance are qualified and the program requirements are made available to these persons.

(3) Personnel not qualified to perform maintenance on CAT II systems and equipment, including flightcrew and dispatch, will be trained in the airworthiness release requirements of the lower minima program.

4. TASK OUTCOMES.

a. Complete PTRS.

b. Complete the Task. The POI has the primary responsibility to grant the operator approval for lower minima after concurrence from the Flight Technologies and Procedures Division, AFS-400. It is the Avionics ASI's primary responsibility to evaluate and approve the CAT II/III maintenance requirements and associated support programs after concurrence of the Aircraft Maintenance Division, AFS-300. Successful completion of this task will therefore consist of coordination with the Operations ASI for sending all original CAT II and III documentation to AFS-400 for review and concurrence.

5. FUTURE ACTIVITIES. None.

FIGURE 1. CATEGORY II/III APPROVAL JOB AID (AVIONICS/AIRWORTHINESS)

An example of the CAT II/III (Avionics/Airworthiness) Job Aid is included below. For the most recent version of both the Operations and Airworthiness Job Aids refer to the AFS-410 Web site at http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs410/

		CAT II/III APPROVAL JOB AID	Seeking Authorization for: CAT II ❑ CAT IIIA ❑ CAT IIIB ❑
		Operator Name:	
		14 CFR Part: 121 ❑ 135 ❑ 91K ❑ 91 small category A ❑ 91F ❑	Date:
		Previous CAT II: Yes ❑ No ❑ CAT III: Yes❑ No ❑	
	Doc Ref	**AVIONICS/AIRWORTHINESS**	**Operator's Reference Document**
	1	**OPERATOR CAMP**	
	1.A	Type of Operation :	
	1.B	Integrated Program ❑ Specific Program ❑	
	1.C	LLM Specific Procedures in GMM	
	1.D	Revision and Update LLM GMM Procedures	
	1.E	LLM Personnel Records System	
	1.F	LLM system and configuration status/compliance for each aircraft	
	1.G	LLM mods, additions and changes	
	1.H	Mx Requirements/log entries necessary to change LLM status	
	1.I	Specific LLM discrepancy reporting procedures (MEL)	
	1.J	LLM Quality Control and Analysis (QA) Program	
	1.K	Procedures to ensure Non-LLM Qual Aircraft remain off status	
	1.L	Placarding/Logbook Procedures	
	1.M	LLM Downgrade Procedures if Mx performed by unqualified personnel	

FIGURE 1. CATEGORY II/III APPROVAL JOB AID (AVIONICS/AIRWORTHINESS) (Continued)

	1.N	Return to Service Procedures	
	1.O	LLM continued status procedures	
	1.P	Periodic Performance Sampling Procedures	
	1.Q	LLM Parts Identification procedures	
	1.R		
	1.S		
	1.T		
	1.U		
	1.V		
	1.W		
	2	**INITIAL AND RECURRENT MAINTENANCE TRAINING**	
	2.A	LLM Initial Training Curriculum Document	
	2.B	LLM Certification/Qualification requirements	
	2.C	Training Records System for LLM Personnel	
	2.D	Training Equipment Description	
	2.E	Curriculum subject areas	
	2.F	Vendor or Vendor's outside Parts procedures and LLM program compatibility	
	2.G	Component Tracking and Control procedures	
	2.H	Component mods and changes (ADs, EOs, etc.) tracking procedures	
	2.I	LLM recording and reporting procedures for system malfunctions	
	2.J	LLM software install, test, update, evaluate, control procedures	
	2.K	MEL procedures (remarks section, limitations, upgrade/downgrade)	
	2.L	LLM Required Inspection Items (RII) components, systems and software	

FIGURE 1. CATEGORY II/III APPROVAL JOB AID (AVIONICS/AIRWORTHINESS) (Continued)

	2.M		
	2.N		
	2.O		
	2.P		
	2.Q		
	3	**TEST EQUIPMENT/CALIBRATION STANDARDS**	
	3.A	Required accuracy and reliability primary/secondary standards	
	3.B	Contract Maintenance or Vendor Test Equipment Reliability procedures	
	3.C	Dedicated LMM test equipment listing	
	3.H		
	4	**RETURN TO SERVICE (RTS) PROCEDURES**	
	4.A	LMM Upgrade/Downgrade Procedures	
	4.B	Interdepartmental LLM aircraft status notification procedure	
	4.C	Component/System Testing Level requirements	
	4.D	BITE Procedures	
	4.E	Contractor/Vendor Training and Authorization for RTS	
	4.F		
	4.G		
	4.H		
	5	**PERIODIC AIRCRAFT SYSTEM EVALUATIONS**	
	5.A	Logbook entry procedures	
	5.B	Recordkeeping procedures	
	5.C	Avionics/Airframe manufactures procedures	

FIGURE 1. CATEGORY II/III APPROVAL JOB AID (AVIONICS/AIRWORTHINESS) (Continued)

	5.D	Engineering Analysis Procedures	
	6	**RELIABILITY REPORTING AND QUALITY CONTROL**	
	6.A	Operator Use Suitability (OUSD) Report	
	6.B	Monthly Summary Report (following OUSD to CHDO) Format	
	6.C	Reliability and Reporting Requirements after one year Period (6.B above)	
		OPERATOR'S DOCUMENT APPLICAT ION PACKAGE	
	7	GMM-Pertinent Parts	
	7.A	LLM Initial/Recurrent Training Program	
	7.B	LLM Personnel Records System	
	7.C	MEL procedures	
	7.D	LLM Quality Control and Analysis (QA) Program	
	7.E	Return to Service Procedures	

Updated November 2005

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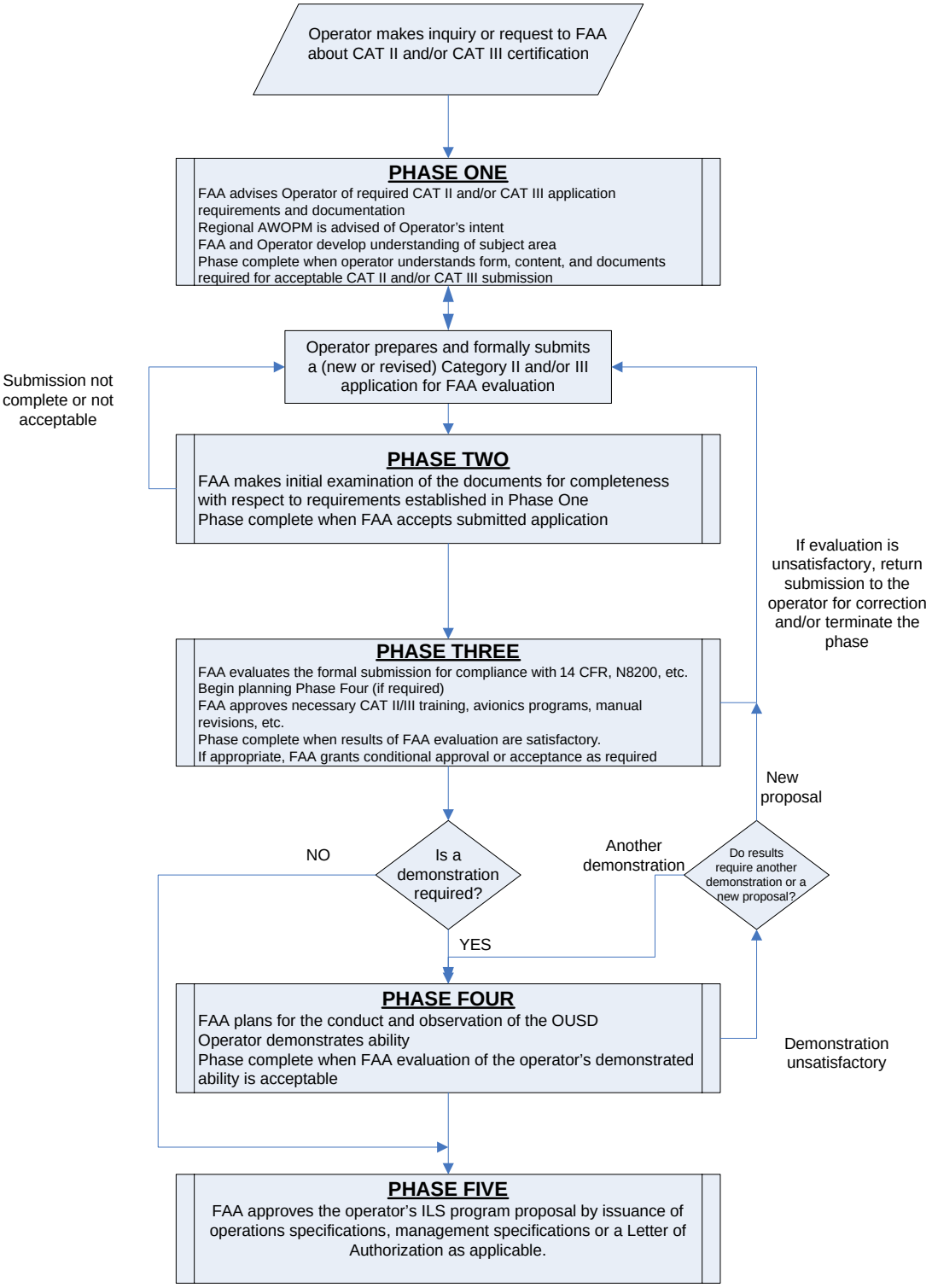
APPENDIX 5. CAT II/III EVALUATION AND APPROVAL PROCESS FLOW DIAGRAM



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