VOLUME 3 GENERAL TECHNICAL ADMINISTRATION

CHAPTER 18 OPERATIONS SPECIFICATIONS

Section 4 Part B Operations Specifications—En Route Authorizations and Limitations

3-816 PART B OPERATIONS SPECIFICATIONS (OPSPECS).

NOTE: All 300-series and nonstandard 500-series OpSpecs/management specifications (MSpecs)/training specifications (Tspecs)/letters of authorization (LOA) (Parts A, B, C, D, E, and H) require approval by the appropriate headquarters (HQ) policy division. Title 14 of the Code of Federal Regulations (14 CFR) parts 61, 91, 91 subpart K (part 91K), 125 (including part 125 Letter of Deviation Authority (LODA) holders), 133, 137, and 141 operators' nonstandard operational requests must be approved by the General Aviation and Commercial Division (AFS-800). Title 14 CFR parts 121, 135, and 142 nonstandard operational requests must be approved for issuance by the Air Transportation Division (AFS-200). Parts 121, 135, and 14 CFR part 145 repair station and all airworthiness nonstandard requests must be approved by the Aircraft Maintenance Division (AFS-300). All Weather Operations (AWO) relating to instrument procedures must be approved by the Flight Technologies and Procedures Division (AFS-400) and AFS-200 or AFS-800, as appropriate. Nonstandard authorizations for 14 CFR part 129 foreign operators require approval from the International Programs and Policy Division (AFS-50).

NOTE: All text added to an OpSpec/Mspec/Tspec or LOA through the use of nonstandard text entered in the nonstandard text block (sometimes referred to as "Text 99") must also be approved by the appropriate HQ policy division. For detailed guidance on the process for obtaining HQ approval for nonstandard authorizations, principal inspectors (PI) must read the guidance contained in Volume 3, Chapter 18, Section 2.

NOTE: The following OpSpecs designated with a "*" are for the part 142 database only.

***OPSPEC B001, 14 CFR PART 61 APPROVED CURRICULA—OTHER THAN AIRLINE TRANSPORT PILOT—AIRPLANE.** General Guidance found in Volume 3, Chapter 54.

***OPSPEC B002, 14 CFR PART 61 AIRLINE TRANSPORT PILOT CERTIFICATE AND ADDED AIRCRAFT TYPE RATING—AIRPLANE.** General Guidance found in Volume 3, Chapter 54.

***OPSPEC B003, 14 CFR PART 61 FLIGHT INSTRUCTOR APPROVED CURRICULA.** General Guidance found in Volume 3, Chapter 54.

***OPSPEC B004, AIRMAN CERTIFICATION OTHER THAN PILOT.** General Guidance found in Volume 3, Chapter 54.

***OPSPEC B006, REMOVAL OF CENTERLINE THRUST LIMITATIONS.** General Guidance found in Volume 3, Chapter 54.

***OPSPEC B008, SATELLITE TRAINING CENTERS OPERATIONS AND AUTHORIZATIONS.** General Guidance found in Volume 3, Chapter 54.

***OPSPEC B009, REMOTE TRAINING SITES AUTHORIZATIONS.** General Guidance found in Volume 3, Chapter 54.

***OPSPEC B011, 14 CFR PART 61 APPROVED CURRICULA—OTHER THAN AIRLINE TRANSPORT PILOT—ROTORCRAFT/ HELICOPTER.** General Guidance found in Volume 3, Chapter 54.

***OPSPEC B012, 14 CFR PART 61 AIRLINE TRANSPORT PILOT CERTIFICATE AND ADDED AIRCRAFT TYPE RATING—ROTORCRAFT/HELICOPTER.** General Guidance found in Volume 3, Chapter 54.

OPSPEC B029, DRIFTDOWN OR FUEL DUMPING.

A. Purpose. OpSpec B029 is used to authorize driftdown or fuel dumping procedures used by the 14 CFR part 121 or 135 certificate holder to demonstrate compliance with 14 CFR terrain clearance requirements. The certificate holder uses the system described or referenced in the OpSpec for its approved driftdown or fuel dumping procedures, limitations, and data.

B. "Nonstandard" OpSpec Paragraph. This is the template to use that is referred to in the guidance as the "nonstandard" OpSpec paragraph for this authorization. It is "nonstandard" only because of the addition of free text. It is issued as a "standard" OpSpec.

C. Further Guidance. See Volume 4, Chapter 3, Section 5, Selected Practices, paragraph 4-593 for more information.

OPSPEC B030, IFR NAVIGATION USING GPS/WAAS RNAV SYSTEMS.

A. Purpose. En route Area Navigation (RNAV) operations in the State of Alaska and its airspace on published air traffic routes using Technical Standard Order (TSO)-C145a/C146a navigation systems as the only means of instrument flight rules (IFR) navigation appropriate for the route to be flown.

B. Wide Area Augmentation System (WAAS) Equipment. This OpSpec also authorizes TSO-C145a/C146a WAAS equipment to be used for IFR en route operations at special minimum en route altitudes (MEA) that are outside the operational service volume of ground-based Navigational Aid (NAVAID) if the aircraft operation meets the requirements of sections 3 and 4 of Special Federal Aviation Regulation (SFAR) 97.

C. Global Positioning System (GPS). The recent availability of TSO-C145a/C146a WAAS equipment constitutes a significant improvement in GPS RNAV technology by the incorporation of WAAS, Fault Detection and Exclusion (FDE), along with receiver autonomous integrity monitoring (RAIM). For a complete discussion of the equipment, see Volume 4,

Chapter 1, Section 1, paragraph 4-3D, GPS and WAAS Navigation, and Volume 4, Chapter 1, Section 2, paragraph 4-32, FAA Approval of GPS/WAAS.

D. Automated Operations Safety Subsystem (OPSS). Principal operations inspectors (POI) can access OpSpec B030 in the OPSS. Required information must be entered to specify the applicable aircraft make, model, and serial number, WAAS manufacturer and model, and the equipment type and class (See Table 3-7, Wide Area Augmentation System Equipment Classes, below).

Table 3-7. Wide Area Augmentation System Equipment Classes

WAAS EQUIPMENT CLASSES					
TSO-C145a/C146a					
EQUIPMENT CLASS	Oceanic and Domestic En Route, Terminal Area Operations, Nonprecision Approach			LNAV/VNAV Approaches	LPV APPROACHES
WAAS Sensor [TSO-C145a]					
Class 1	Yes			no	no
Class 2	Yes			yes	no
Class 3	Yes			yes	yes
WAAS Navigation Equipment [TSO-C146a] (note 1)					
Class 1	Yes			no	no
Class 2	Yes			yes	no
Class 3	Yes			yes	yes
Class 4 (note 2)	No			no	yes

NOTE 1: WAAS sensor: While the TSO-C145a sensor supports the operations denoted, the integrated navigation system may not support all of these operations. Consult the Approved Flight Manual (AFM), AFM supplement, pilot's guide, etc., for more information.

NOTE 2: Class 4 equipment will typically also be authorized under TSO-C145a Class 3. In that configuration the WAAS equipment will support all phases of flight. The integrated navigation system may not support all of these operations (see NOTE 1).

E. Special Navigation Limitations and Provisions. WAAS equipment uses whatever GPS and WAAS satellites are in view and will provide the best available service. If the navigation service does not meet all of the requirements for the phase of flight, the equipment annunciates the "Loss of Integrity" or an RAIM indication. If all GPS guidance is lost, the equipment will revert to dead reckoning and the flightcrew should take appropriate action (e.g., revert to alternate means of navigation, climb into ground NAVAID coverage, request radar services, proceed visually). Special navigation limitations and provisions are included in this OpSpec to ensure that flightcrews have been properly trained, tested, and qualified. Procedures must also be established for flightcrews and aircraft dispatchers (when applicable) to govern operation during periods of degraded navigation capability and/or satellite outages. Additional special conditions included in this paragraph require the certificate holder to use an approved program to predict navigation outages that impact WAAS equipment.

F. Independent Systems. Approval of this paragraph requires the aircraft to be equipped with two independent systems capable of supporting the operation. This may be met with:

- Dual TSO-C146a Class 1, 2 or 3 equipment, installed in accordance with the current edition of Advisory Circular (AC) 20-138, Airworthiness Approval of Positioning and Navigation Systems; or
- At least one flight management system (FMS) that complies with TSO-C115b (installed in accordance with the current edition of AC 20-130, Airworthiness Approval of Navigation or Flight Management Systems Integrating Multiple Navigation Sensors) and dual TSO-C145a Class 1, 2 or 3 receivers (installed in accordance with AC 20-138).

G. Navigation System. The navigation system must be fully operational or operated in accordance with an approved minimum equipment list (MEL). The approved navigation system may only be used to navigate along routes defined by fixes residing in the aircraft navigation system database.

H. Example Program. POIs are encouraged to use the University of Alaska Anchorage Aviation Technology's Capstone II Training Program for Part 121/135 Operations as a template for approving their certificate holders' GPS/WAAS ground and flight training. The University of Alaska's training program proved to be very successful during the Alaska Regions Capstone Phase I Program. Air Transportation Oversight System (ATOS) 14 CFR part 121 POIs should incorporate this review with ATOS tools in determining appropriate action. It is recommended that POIs evaluate the carrier's specific system installation to determine if any program modifications are required.

***OPSPEC/MSPEC B031, AREAS OF EN ROUTE OPERATION.**

A. Operators. OpSpec B031 is issued to all 14 CFR part 121, 121/135, 135, and 125 operators (fixed-wing and/or rotorcraft).

1) Only the lead-in paragraph is issued to those part 135 operators who operate under visual flight rules (VFR) only. In the automated Operations Safety Subsystem (OPSS), you will be prompted in the "text tab" to highlight the statement "Load this value only for VFR operation" and then click on "Load Value From Database" button.

2) All instrument flight rules (IFR) operators are issued the lead-in paragraph and subparagraphs a through f as prescribed below. You will be prompted in the "text tab" of the OPSS to highlight the statement "Load this value only for IFR operation" and then click on "Load Value From Database" button.

3) Select subparagraph g if the certificate holder is authorized to use global positioning system (GPS) navigation equipment for IFR Class I Navigation.

B. Specific Authorizations. The delimiting phrases, "if issued" or "if that paragraph is issued" is used in the subparagraphs that refer to other OpSpecs that give the specific authorizations (i.e., IFR in Class G Airspace, Class I Navigation, Class II Navigation). The principal operations inspector (POI) must complete these authorizations and coordinate them with principal maintenance inspectors (PMI).

C. Subparagraph B(3). Subparagraph b(3), "Operate IFR flights including flights to alternate or diversionary airports in Class G Airspace in accordance with the provisions of paragraphs A014, C064, C080, H113, and/or H121, as applicable, of these OpSpecs, if issued" is a provisionary statement dependent upon the issuance of the other aforementioned OpSpecs for authorization to operate in Class G Airspace.

D. Subparagraph C. Subparagraph c reads, "Deviations from routings specified in this paragraph are authorized when necessary due to in-flight emergencies or to avoid potentially hazardous meteorological conditions."

E. Subparagraphs D, E, and F. Subparagraphs d, e, and f are to be selected for issuance only if they apply to the IFR operator.

1) Subparagraph d reads, "For operations within [U.S.] Class A Airspace, the certificate holder is authorized to conduct Class I Navigation under positive radar control with the Area Navigation (RNAV) or long-range navigation systems (LRNS) specified in OpSpec B035 of these OpSpecs if that paragraph is issued," according to the following guidelines:

a) OpSpec B035 must also be issued to authorize IFR Class I Navigation in U.S. Class A Airspace using RNAV systems, including LRNS.

b) Any one or all of the aircraft to be operated under the certificate must be capable of conducting part 121 or 135 operations in excess of flight level (FL) 180.

c) And the airplane(s) has LRNS installed.

d) OR the aircraft(s) has RNAV systems installed.

e) An air carrier must have an approved method of "off airway navigation" to depart from established airways. When this capability is lost, the carrier must return to the established airway.

2) Subparagraph e reads, "The certificate holder is authorized to conduct Class I Navigation, including en route IFR operations outside positive radar control, with the RNAV systems specified in OpSpec B034 of these OpSpecs, if that paragraph is issued," and is authorized according to the following guidelines:

a) OpSpec B034 must also be issued to all air carriers conducting Class I Navigation in U.S. and foreign operations who wish to proceed "direct" to a point or destination in or out of controlled airspace.

3) Any one or all of the aircraft to be operated under the certificate must be authorized IFR Class I Navigation using RNAV systems certified in accordance with the current edition of Advisory Circular (AC) 90-45, Approval of Area Navigation Systems for Use in the U.S. National Airspace System.

4) Subparagraph f reads, "The certificate holder is authorized to conduct Class II Navigation in accordance with OpSpecs B032 and B036 of these OpSpecs, if those paragraphs are issued."

a) Any one or all of the aircraft to be operated under the certificate must be authorized IFR Class II Navigation using approved LRNS (OpSpec B036 issued), in accordance with the current edition of AC 90-79, Recommended Practices and Procedures for the Use of Electronic Long-Range Navigation.

b) OpSpec B032, IFR En Route Limitations and Provisions, must be issued to all IFR operators; it does not apply if the operator is VFR only.

c) This approval may be issued with or without a flight navigator as authorized in OpSpec B047.

F. Subparagraph G. For en route authorization to use GPS for Class I IFR Navigation, if the existing aircraft avionics installation does include RNAV capability, subparagraph g would be selected, which reads, "The certificate holder is authorized to use approved GPS navigation equipment as a supplement to International Civil Aviation Organization (ICAO)-standard navigation equipment while conducting Class I Navigation."

G. OpSpec B050. OpSpec B050, Areas of Operations, must also be issued.

OPSPEC/MSPEC B032, EN ROUTE LIMITATIONS AND PROVISIONS. This paragraph is issued to operators who conduct any instrument flight rules (IFR) operations. The second sentence of the lead-in paragraph prohibits IFR operations outside of controlled airspace unless

the operator is authorized to conduct such operations by appropriate OpSpecs. In certain situations, OpSpec B032 permits the operator to navigate outside the operational service volume of airways navigation facilities (Class II Navigation) without long-range navigation (LRN) equipment. Some of the criteria that must be met when conducting Class II Navigation without LRN equipment are as follows:

- Navigation is predicated on International Civil Aviation Organization (ICAO) standard ground-based Navigational Aids (NAVAID) (Very high frequency Omnidirectional Range (VOR), VOR/distance measuring equipment (DME), and nondirectional radio beacon (NDB));
- A "reliable fix" using ICAO standard NAVAIDs can be obtained at least once each hour;
- Navigation is conducted to the degree of accuracy required for air traffic control; and
- Route of flight is a "great circle" route between the two NAVAIDs.

OPSPEC B033. RESERVED.

OPSPEC/MSPEC/LOA B034, IFR CLASS I TERMINAL AND EN ROUTE NAVIGATION USING RNAV SYSTEMS.

A. Authorization. B034 authorizes an operator to conduct instrument flight rules (IFR) Class I Navigation using an Area Navigation (RNAV) system, as applicable, in the areas authorized in operations specification (OpSpec)/management specification (Mspec)/letter of authorization (LOA) B050.

NOTE: Questions regarding the issuance of B034 should be directed to the Flight Technologies and Procedures Division (AFS-400) at 202-385-4623.

1) The RNAV system must meet the en route performance criteria prescribed by the current edition of Advisory Circular (AC) 90-45, Approval of RNAV Systems for Use in the U.S. National Airspace System. See Federal Aviation Administration (FAA) Order 8900.1, Volume 4, Chapter 1, Section 2, Air Navigation Approval Requirements.

2) A Global Positioning System (GPS) navigation system with Technical Standard Order (TSO) TSO-C129 or TSO-C145a/C146a compliant GPS/wide area augmentation system (WAAS) RNAV systems (or later revisions that meet or exceed the performance requirements of this TSO/revision as approved by the Administrator) may be authorized as a supplement to International Civil Aviation Organization (ICAO) standard navigation equipment while conducting Class I Navigation.

3) When the capability exists to revert to conventional dual airborne very high frequency Omnidirectional Range (VOR), VHF omni-directional range station/distance measuring equipment (VOR/DME), and/or non-directional radio beacon (NDB) navigation systems, only a single RNAV system needs to be specified. If this capability is not available, dual or redundant (separate and independent) RNAV systems must be specified.

4) B034 permits the use of a fix obtained from a redundant RNAV system (authorized by B034) to substitute for a required ground-based Navigational Aid (NAVAID) fix when that NAVAID is temporarily out of service.

B. Additional Authorization. B034 also authorizes an operator to conduct IFR operations in designated Basic RNAV (B-RNAV)/RNAV 5 and Precision RNAV (P-RNAV) airspace.

NOTE: In accordance with the terminology adopted in ICAO Doc. 9613, Performance-Based Navigation Manual, B-RNAV requirements are termed RNAV 5.

1) The route design determines whether the operation is terminal or en route navigation.

2) For B-RNAV/RNAV 5 terminal and en route operations, the navigation performance is ±5 nautical miles (NM) for 95 percent of the flight time.

3) For P-RNAV terminal and en route operations, the navigation performance is ±1 NM for 95 percent of the flight time.

4) If the RNAV equipment is certified for P-RNAV, it may be authorized for both P-RNAV and B-RNAV/RNAV 5 terminal and en route operations.

NOTE: Authorization for B-RNAV/RNAV 5 terminal and en route operations does not automatically qualify the certificate holder/program manager/operator for RNP 10 oceanic operations (RNAV 10). (See ICAO Doc. 9613, Part B, Implementing RNAV.)

5) The following documentation provides guidance material in regard to onboard RNAV equipment requirements and operational approval for operators of U.S.-registered civil aircraft:

a) AC 90-96, Approval of U.S. Operators and Aircraft to Operate Under Instrument Flight Rules in European Airspace Designated for B-RNAV and P-RNAV (current edition).

b) Regional Supplementary Procedures contained within ICAO Doc. 7030/4-EUR, Part 1, Rules of the Air, Air Traffic Service and Search and Rescue, require aircraft operating under IFR in designated European P-RNAV airspace to meet a ±1 NM 95-percent accuracy criteria. For B-RNAV/RNAV 5, the criteria requirement is ±5 NM 95-percent accuracy.

c) Functional and performance requirements are contained within ICAO Doc. 9613 and FAA AC 90-96, appendix 1 (B-RNAV/RNAV 5) and appendix 2 (P-RNAV).

6) The following documentation should be evaluated by the principal inspectors (PI) for authorizing B-RNAV/RNAV 5 and/or P-RNAV:

a) Sections of the Aircraft Flight Manual (AFM) that document the appropriate approval in accordance with AC 90-96, appendix 1 or appendix 2, as applicable.

b) Training and operations manuals that reflect the operating policies in AC 90-96.

C. Equipment Eligibility. If the operator is unable to determine B-RNAV/RNAV 5 or P-RNAV equipment eligibility from the AFM, the operator will ask the field office (certificate-holding district office (CHDO)/Flight Standards District Office (FSDO)/International Field Office (IFO)) to assess the RNAV equipment for B-RNAV/RNAV 5 or P-RNAV eligibility. The operator should provide the following, as applicable:

Table 3-8. Requirements for B-RNAV or P-RNAV Equipment Eligibility

B-RNAV/RNAV 5 (±5NM) Navigation Performance	P-RNAV (±1NM) Navigation Performance
RNAV system make, model and part number	RNAV system make, model and part number
Evidence of meeting ±5 NM accuracy, 95%	Evidence of meeting ±1 NM accuracy, 95%
Proof that the system meets the required functions for B-RNAV/RNAV 5 operations	Proof the system meets the required functions for P-RNAV operations
Crew operating procedures, bulletins	Crew operating procedures, bulletins
Any other pertinent information	Any other pertinent information

D. Determining Eligibility. If the field office is unable to determine equipment eligibility for B-RNAV/RNAV 5, it should forward the request and supporting data through the appropriate FAA regional divisions to AFS-400 for review.

E. Aircraft Evaluation Group (AEG). If the field office is unable to determine equipment eligibility for P-RNAV, it should forward the request and supporting data through the appropriate FAA Flight Standards regional division to the appropriate AEG.

1) The AEG will verify that the aircraft and RNAV system meet the criteria for P-RNAV.

2) The AEG will provide written documentation (e.g., amended Flight Standardization Board (FSB) report or other official documentation) to verify the eligibility of that equipment.

3) The written documentation will identify any conditions or limitations necessary (e.g., navigation systems or procedures required, routes, areas, or procedures authorized) when conducting P-RNAV operations.

F. Appropriate Authorizations. The principal operations inspector (POI) shall coordinate with the principal avionics inspector (PAI) to obtain the proper nomenclature of the manufacturer and model and to ensure that the RNAV system is installed in accordance with approved data and meets the criteria of AC 90-45 and/or AC 90-96, as applicable. After the Pis determine that the operator is eligible and the navigation equipment is eligible for B-RNAV/RNAV 5 and/or P-RNAV operations based on the documentation provided by the operator, OpSpec/Mspec/LOA B034 may be issued indicating the appropriate authorizations.

1) The aircraft (make/model) and the manufacturer and model of the RNAV systems authorized for this type of navigation must be listed in Table 1 of OpSpec/Mspec/LOA B034.

2) If B-RNAV/RNAV 5 (±5NM) and/or P-RNAV (±1NM) are authorized, these can be selected for insertion into column 4 of Table 1. If neither is authorized, select N/A.

OPSPEC/MSPEC/LOA B035, CLASS I NAVIGATION IN THE U.S. CLASS A AIRSPACE USING AREA OR LONG-RANGE NAVIGATION SYSTEMS.

A. Purpose. The OpSpec/Mspec/LOA B035 template is used to authorize an operator to conduct Class I navigation within the U.S. Class A airspace using an Area Navigation (RNAV) system or long-range navigation system (LRNS). This authorization is applicable to operators conducting operations under 14 CFR parts 91 subpart K (91K), 121, 125 (including those issued a Letter of Deviation Authority (LODA) part 125 subpart M (part 125M)), and 135. (For 14 CFR part 129, see Volume 12, Chapter 2, Section 4.)

B. Not Eligible or Trained. If an operator's aircraft are not eligible (properly equipped) and/or its flightcrews are not appropriately trained to conduct RNAV Q-routes, then that authorization should not be selected for inclusion in Table 1 and a selection of "N/A" is used when OpSpec/Mspec/LOA B035 is issued. The current edition of Advisory Circular (AC) 90-100, U.S. Terminal and En Route RNAV Operations, provides guidance for operators regarding operations on RNAV routes.

C. Procedures. Procedures utilized under this approval should be outlined in the appropriate operations manual or outlined in OpSpec/Mspec/LOA A008, as applicable.

1) RNAV routes designated as domestic Q-routes are being developed for areas throughout the National Airspace System (NAS) in accordance with AC 90-100.

2) This guidance, the OpSpec/Mspec/LOA B035 authorization, and AC 90-100 do not apply to RNAV routes designated as Q-routes in the Gulf of Mexico. (See Notice to Airmen Publication (NTAP) for Gulf of Mexico information.)

D. RNAV Within the Continental United States (CONUS). Q-routes can be flown using Global Positioning System (GPS) or distance measuring equipment (DME)/DME/Inertial Reference Unit (IRU). In some cases, sufficient ground-based navigation sources are inadequate/unavailable to support DME/DME/IRU operations. When this occurs, the route must be annotated "GNSS REQUIRED." Q-route procedures require the aircraft's track-keeping accuracy remain bounded by + 2 nautical miles (NM) for 95 percent of the total flight time. Unless the RNAV route specifically requires GPS or Global Navigation Satellite System (GNSS) equipage, aircraft on the RNAV route must be within air traffic control (ATC) radar surveillance and communication (except for operations in Alaska).

E. RNAV Aircraft Equipped with Technical Standard Order (TSO)-C129, TSO-C145, or TSO-C146 on Q-Routes in Alaska. For Q-route operations in Alaska, the entire portion of the intended route of flight, using the RNAV systems or LRNS, shall be under ATC radar surveillance and communication.

F. Training. An operator's FAA-approved training program should include subject areas and frequency in accordance with the following:

1) Training and qualification should be conducted in the specific equipment being used and type of procedure(s) approved under the template B035 route authorization and include the following subject areas:

a) Operating procedures in AC 90-100;

b) Pilot knowledge requirements and training described in AC 90-100;

c) Recognition that some manually selectable aircraft bank-limiting functions might reduce the ability to satisfy ATC path expectations, especially during large angle turns; and

d) Procedures for verification that the correct routes are entered into the navigation system database.

2) Recurrent training and continuing qualification should be based upon the following: crewmembers should be trained to proficiency on these RNAV routes during their first training sequence with the specific airplane type and equipment being used by the operator.

G. Determining Eligibility. Operators and pilots should use the guidance in AC 90-100 to determine their eligibility for domestic U.S. RNAV Q-routes. For the purpose of this authorization, "compliance" means meeting operational and functional performance criteria.

NOTE: Aircraft compliant with the current edition of AC 90-45, Approval of Area Navigation Systems for Use in the U.S. National Airspace System, may not be compliant with the criteria in AC 90-100.

1) Domestic Q-routes not labeled "GNSS REQUIRED" require DME/DME/IRU sensors and/or GPS inputs. Due to gaps in the DME infrastructure of the NAS, Q-routes not labeled "GNSS REQUIRED" require IRU sensor inputs to augment DME/DME, which is often referred to as DME/DME/IRU.

2) The operator is responsible for providing equipment eligibility documented by the Approved Flight Manual (AFM). If the operator is unable to determine that the aircraft is eligible, the operator must provide the applicable information in Table 3-9, Required Route Documentation, to the certificate-holding district office (CHDO).

Table 3-9. Required Route Documentation

Domestic Route Authorization
Requires the following documentation: RNAV system make, model, and part number(s); Evidence of compliance with AC 90-100 requirements; Crew operations procedures; Crew training program; and Any other pertinent information.

3) Based on the information supplied by the operator, the principal operations inspector (POI) must coordinate with the principal avionics inspector (PAI) to determine equipment eligibility for RNAV routes via the Performance Based Flight System Branch (AFS-470) Web site at http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs470/media/AC90-100compliance.xls.

a) The PAI determines the proper nomenclature of the manufacturer's make/model/software version and that the RNAV system is installed in accordance with approved data and meets the criteria of AC 90-100.

b) If the CHDO is unable to determine equipment eligibility for RNAV routes via the AFS-470 Web site, contact AFS-470 for guidance.

4) After the principal inspectors (PI) agree that the operator's navigation equipment, procedures, and flightcrew training are eligible for RNAV route operations, the B035 template may be issued indicating the appropriate authorizations.

H. Certificate Holders and Program Managers Authorized European Precision Area Navigation (P-RNAV) Operations. The criteria in AC 90-100 required for U.S. RNAV procedures are generally consistent (but there are exceptions) with the criteria for P-RNAV operations in Europe.

1) P-RNAV terminal and en route operations require a track-keeping accuracy of ±1 NM for 95 percent of the flight time.

2) If an operator has met the requirements for and is authorized P-RNAV in the B034 template, that operator may also be eligible for RNAV routes without additional verification of equipment eligibility. POIs should still evaluate their operator's procedures and training to ensure compliance with AC 90-100.

3) Appropriate P-RNAV references are:

- AC 90-96, Approval of U.S. Operators and Aircraft to Operate Under Instrument Flight Rules (IFR) in European Airspace Designated for Basic Area Navigation (B-RNAV) and Precision Area Navigation (P-RNAV);
- European Aviation Safety Agency (EASA) TGL-10; and
- Volume 3, Chapter 18, Section 4 (see OpSpec/Mspec/LOA B034).

I. References (current editions):

- Part 91, §§ 91.123, 91.205, and 91.503
- Part 95,
- Part 121, § 121.349,
- Part 125, § 125.203,
- Part 129, § 129.17,
- Part 135, § 135.165, and
- FAA Order 7110.65, Air Traffic Control.

OPSPEC/MSPEC B036, CLASS II NAVIGATION USING MULTIPLE LONG-RANGE NAVIGATION SYSTEMS. OpSpec B036 authorizes Class II Navigation when long-range navigation systems (LRNS) are required due to the inability to obtain a reliable fix at least once each hour from International Civil Aviation Organization (ICAO) standard Navigational Aids (NAVAID). OpSpecs paragraph B047 should be issued when an operator uses a flight navigator for any type of Class II Navigation. OpSpec B036 authorizes the operator to use LRNS and prohibits the use of a flight navigator.

A. Required LRNS. In certain areas, LRNS may also be required even though reliable fixes may be obtained more than once each hour. In these areas, traffic density and the navigation accuracy necessary for air traffic control may require the use of LRNS.

1) Direction and guidance for authorizing Class II Navigation is in Volume 4, Chapter 1, Section 4.

2) When an operator applies for authorization to conduct Class II Navigation using LRNS or a flight navigator, validation tests are required. See Volume 3, Chapter 29, Section 8.

3) OpSpec B036 prohibits Class II Navigation within Central East Pacific Airspace (OpSpec B037), North Pacific Airspace (OpSpec B038), Operations Within North Atlantic Minimum Navigation Performance Specifications Airspace (OpSpec B039), and areas of magnetic unreliability (OpSpec B040), unless operations in those areas are authorized by issuing the appropriate referenced paragraphs.

4) Subparagraph B036b(5) permits the use of a fix obtained from a LRNS to substitute for a required ground-based NAVAID fix when that NAVAID (an airways navigation facility) is temporarily out of service.

5) The aircraft (make/model) and the LRNS (manufacturer/model) authorized for Class II Navigation must be listed in OpSpec B036. Dual or redundant (separate and independent) LRNS must be indicated in the list.

6) There are certain areas where a single long-range navigation system (S-LRNS) may be authorized (see OpSpec B054).

B. Operator's Long-Range Navigation (LRN) Program. The principal operations inspector (POI) must ensure the operator's LRN program incorporates the practices and procedures recommended in the most recent version of Advisory Circular (AC) 90-79, Recommended Practices and Procedures for the Use of Electronic Long-Range Navigation, or the operator has approved procedures equivalent to or exceeding those in AC 90-79 or other applicable Acs. These procedures must be in the operator's manuals and in checklists, as appropriate. Training on the use of LRN equipment and procedures must be included in the operator's training curriculums. The operator's minimum equipment lists (MEL) and maintenance programs must address the LRN equipment. The POI must coordinate with the principal avionics inspector (PAI) to obtain the proper nomenclature of the manufacturer and model and to ensure the LRN equipment is installed and maintained in accordance with approved data. See Volume 4, Chapter 1, Section 2.

C. RNP-10 Documentation. The current edition of FAA Order 8400.12, Required Navigational Performance 10 (RNP-10) Operational Approval is a guide to RNP-10 aircraft and operator approval in any airspace where RNP-10 navigation criteria are required.

1) If an operator requests to deviate from the practices and procedures in Order 8400.12, the inspector should forward a request for assistance through the regional Flight Standards division (RFSD) to AFS–400.

2) The steps in this process should be followed when an operator seeks authority to operate an airplane type/LRNS combination in Class II Navigation areas where RNP-10 is applied and the operator has not previously received RNP-10 approval for that specific airplane type/LRNS combination. Normally, if an operator has received initial Class II Navigation/RNP-10 approval for a specific airplane type/LRNS combination, that operator should not be required to reapply for approval to conduct Class II Navigation/RNP-10 operations on additional routes or areas.

a) Required Application Items. Order 8400.12 provides guidance on the content of an operator's RNP-10 application. The application should contain the items listed below.

1. Aircraft/Navigation System Group. Airworthiness documents that establish the proposed aircraft/navigation system group, its RNP-10 approval status, and a list of airframes in that group.

2. Sources of LRNS. Approved or requested RNP-10 time limit for aircraft for which inertial navigation systems (INS) or Inertial Reference Units (IRU) are the only source of LRN.

3. RNP-10 Area of Operations. Documentation establishing the RNP-10 area of operations or routes for which the specific aircraft/navigation system is eligible.

4. Operating Practices and Procedures. Documentation that the operator has adopted operating practices and procedures related to RNP-10 operations.

5. Pilot and Aircraft Dispatcher Knowledge. Documentation showing that the pilot and, if applicable, aircraft dispatcher knowledge of RNP-10 operating practices and procedures have been adopted.

6. Airworthiness Practices. Documentation that appropriate maintenance practices and procedures have been adopted.

7. MEL updates, if applicable.

8. Operating History. Operating history that identifies past problems and incidents, if any, and actions taken to correct the situation.

9. Removal of RNP-10 Operating Authority. Awareness of the necessity to follow up action after navigation error reports, and the potential for removal of RNP-10 operating authority.

b) Aircraft Groups and Eligibility Aircraft Groups (Fleets of Aircraft), Paragraph 11 and Determining Aircraft Eligibility, Paragraph 12 of Order 8400.12.

1. Aircraft Groups (Fleets of Aircraft). In accordance with Order 8400.12, the operator must show the aircraft/navigation system groups that will be presented for approval of RNP-10 operations and provide a list of airframes that are determined to be in the specific aircraft/navigation system groups to be evaluated.

2. Determining Aircraft Eligibility. For aircraft navigation systems which have been approved by an aircraft certification authority to RNP-10 or better, the operator must provide appropriate sections of the Approved Flight Manual (AFM) that address RNP, including any associated time limits for INS and IRU navigation systems.

3. Aircraft Equipped with Global Positioning Systems (GPS) Approved to Primary Means of Navigation Standards. For aircraft equipped with GPS, where such GPS units are the only systems for LRN, the operator must show that it is approved in accordance with Order 8400.12. An RNP-10 time limit is not applicable.

4. Multisensor Systems Integrating GPS (with GPS Integrity Provided by Receiver Autonomous Integrity Monitoring (RAIM)). For multisensor systems incorporating GPS, the operator must show that systems are approved and operated in accordance with Order 8400.12. An RNP-10 time limit is not applicable.

5. GPS Equipage with Other Approved LRNS (e.g., INS or IRU). See the current editions of AC 90-94, Guidelines for Using GPS Equipment for IFR En Route and Terminal Operations and for Nonprecision Instrument Approaches, and AC 20-138, Airworthiness Approval of Global Navigation Satellite System (GNSS) Equipment. The operator must show that aircraft equipped with GPS and one or more approved LRNS are installed and operated in accordance with AC 90-94 and AC 20-138. An RNP-10 time limit is not applicable.

6. Equipage Where INS or IRU Provide the Only Means of Long-Range Navigation. The operator must show that INS or IRU installation is approved in accordance with Order 8400.12. Unless the operator takes action to extend the approved navigation system time limit and/or plans to update the system en route, a baseline RNP-10 time limit of 6.2 hours, starting at the time the system was placed in navigation mode, is applicable. See paragraph c)1 and d) below.

7. Aircraft Eligibility Through Data Collection (Eligibility Group 3). For navigation systems not approved under existing criteria, the operator may demonstrate RNP-10 eligibility through data collection in accordance with the processes detailed in appendices 1 or 6 of Order 8400.12.

c) Route Evaluation for RNP-10 Time Limits for Aircraft Equipped with Only INSs or IRU, Order 8400.12. If restrictions (e.g., INS RNP-10 time limit) apply to navigation systems, the operator must show the routes or areas where it is eligible to operate. The operator can conduct a one-time evaluation of eligibility to fly in an RNP-10 area of operations or on specific RNP-10 routes or may elect to evaluate on a per-flight basis.

1. One-Time Evaluation. For one-time evaluation of a specific RNP-10 area or track system, aviation safety inspectors (ASI) should expect the operator to accomplish the following:

- Calculate the longest distance from either departure airports or en route update points (if applicable) to the point at which the aircraft will begin to navigate by reference to very high frequency Omnidirectional Range State (VOR), distance measuring equipment (DME), non-directional radio beacon (NDB), or comes under air traffic control (ATC) radar surveillance;
- As detailed in Order 8400.12, using 75 percent probability wind component, convert this distance to en route time;
- As detailed in Order 8400.12, if navigation systems are to be updated en route, adjust the base line RNP-10 time limit approved for the specific operator navigation system to account for update accuracy;
- Subtract 0.3 hours from the baseline for DME/DME;
- Subtract 0.5 hours from the baseline for VOR/DME;
- Subtract 1 hour from the baseline for manual update;

- Compare calculated en route time to the navigation system RNP-10 time limit (adjusted for en route update, if applicable) to determine if the airplane is eligible for the operation; and
- If the aircraft navigation system is found eligible for operation on the specific routes evaluated, then the RNP-10 area of operations or routes on which RNP-10 operations can be conducted are established. If the aircraft navigation system is not found eligible for operation on all routes evaluated, then the operator will need to designate routes for which it is eligible or take action to gain approval for an extended RNP-10 time limit. See subparagraph d) below.

2. Calculation of Time Limit for Each Specific Flight, Order 8400.12. For a per-flight evaluation of eligibility to fly a specific RNP-10 route, follow the steps shown in paragraph c)1 above, using flight plan winds to determine en route time. If the RNP-10 time limit is exceeded, the flight must be re-routed or delayed.

d) Time Limit Extension. Obtaining an RNP-10 Time Limit Extension for INS- or IRU-equipped aircraft, Order 8400.12. An operator can show eligibility for an extended time limit by:

1. Obtaining approval from an appropriate Aircraft Certification Office (ACO), or

2. Conducting operational data collection using the processes established in appendices 1 or 6 of Order 8400.12.

e) Maintenance Requirements. The certificate holder must provide documentation that appropriate maintenance practices and procedures have been adopted.

f) MEL Requirements. In accordance with Order 8400.12, if applicable, the operator must revise the MEL to address any new operating requirements.

g) Operations Program. Operations manuals and checklists in accordance with FAA Order 8400.12.

1. Title 14 CFR part 121, 125, and 135 certificate holders must provide revisions to manuals and checklists to show the adoption of the RNP-10 operating practices and procedures contained in the reference paragraphs and sections listed in this paragraph.

2. Operations training programs and operating practices and procedures are addressed in Order 8400.12.

h) Deviation to RNP-10 Requirements. The administrator may authorize a certificate holder to deviate from the RNP-10 requirements of OpSpec B036 for a specific flight in designated RNP-10 airspace if the Air Traffic Service (AAT) provider determines that the airplane may be provided appropriate separation and the flight will not interfere with, or impose a burden on other operators. For operations under such authority, the certificate holder will not

take off for flight in designated RNP-10 airspace, unless the following requirements of subparagraphs b and d of OpSpec B036 are met:

1. If fuel planning is predicated on en route climb to flight levels where RNP-10 is normally required, an appropriate request must be coordinated with the AAT provider in advance of the flight.

2. The appropriate information blocks on the ICAO flight plan filed with the AAT provider show that the airplane and/or certificate holder is not approved for RNP-10 as specified in the certificate holder's OpSpec B036.

3. For these flights, at least one of the navigation system configurations listed below must be installed and operational:

- At least two independent INS;
- At least two flight management system (FMS)/navigation sensor combinations (or equivalent);
- At least two independent approved GPS navigation systems acceptable for primary means of Class II Navigation in oceanic and remote areas; and
- At least two approved independent LRNS from the list below:

    - Inertial navigation system;
    - FMS/navigation sensor combination (or equivalent); and
    - GPS navigation system approved for Class II Navigation in oceanic and remote areas.

4. Anchorage and Tokyo Oceanic Notices to Airmen (NOTAM), U.S. Government Flight Information Publication (FLIP) supplement for Alaska. AAT providers have established procedures to accommodate in RNP-10 airspace a limited number of flights by airplanes and/or operators not approved for RNP-10. The operator should show that it has adopted appropriate policies and practices to enable it to operate unapproved airplanes in RNP-10 airspace in situations such as:

- Ferry flights;
- Flights that do not meet RNP-10 MEL requirements; and
- Non-scheduled charter flights using unapproved airplanes.

5. Contacts at Tokyo and Anchorage Oceanic Centers and air traffic policy and procedures for such flights are listed in NOTAMs and/or the Alaska FLIP Supplement and on the FAA RNP Web site. Part 121, 125, and 135 certificate holders will be expected to comply with the provisions of OpSpec B038 for deviation from RNP-10 requirements.

i) Application Evaluation. The operator should indicate awareness of the provisions of Order 8400.12, for operator follow-up action on reported navigation errors and of the potential to remove RNP-10 operating authority.

j) Validation. For guidance on validation tests and validation flights for part 121 and 135 operators, reference Volume 3, Chapter 29. Validation testing requires an evaluation of the operator's programs and documents in accordance with the guidance for RNP-10 approval.

1. General. The following is intended to provide broad guidance for establishing requirements for validation tests and/or validation flights. The POI should consider each application on its own merit and in accordance with Volume 3, Chapter 29. Consult with the RFSD, as necessary.

2. Establishing the Necessity for Validation Flights. The following is provided as guidance for ASIs to consider in determining whether or not validation flights are required.

- Operators with previous Class II Navigation experiences with the same navigation equipment as that being proposed for RNP-10 approval. Evaluation of the applicant's programs and documents should normally suffice. A validation flight should not normally be required.
- Operators with previous Class II Navigation experience navigating with an LRNS other than that being proposed for RNP-10 approval. Evaluation of the applicant's programs and documents is required. A validation flight should normally be required. If conducted in Class I airspace, the validation flight may be conducted in revenue service. If conducted in Class II airspace, it must be non-revenue with the exception that cargo may be carried.
- Operators with no previous Class II Navigation experience proposing to operate where RNP-10 is required. Evaluation of the operator's programs and documents is required. A validation flight should be required and should be conducted in Class II airspace. It should be a non-revenue flight with the exception that cargo may be carried.

3. Conditions for Validation Flights.

- At least one flight should be observed by an FAA ASI.
- A demonstration of any required dispatch procedures must be conducted for routes or areas where RNP-10 is required.
- The flight(s) should be of adequate duration for the pilots to demonstrate knowledge of dispatch requirements, capability to navigate with the system, and to perform the normal and non-normal procedures.

k) OpSpec/Mspec Entries.

1. Required Navigation Performance Type Block. This is the RNP type for which the specific navigation system has been approved. Entry options for this block are:

- RNP-X. Example: RNP-4, RNP-10, etc.
- Per AFM. Example: For B747-400 equipped with FANS-1 package, AFM establishes RNP Type availability based on GPS satellite availability at dispatch.
- NA (not applicable). Example: aircraft not used for RNP operations.

2. RNP Time Limit Block. This is the RNP-10 or RNP-4 time, if applicable, for which the navigation system has been approved. Entry options are:

- X Hours. Example: 6.3 hours, 10.0 hours.
- UNL (Unlimited). Example: Primary means GPS, approved multi-sensor system that incorporates GPS.
- NA (not applicable). Example: aircraft/navigation system no used in RNP operations.

3. OpSpec B038, Operations in the North Pacific (NOPAC) Airspace and OpSpec B037, Operations in Central East Pacific (CEPAC) Airspace, must also be issued.

4. For RNP 4 operations, an aircraft must meet a cross-track keeping accuracy and along-track positioning accuracy of no greater than +7.4 km (4 nautical miles (NM)) for 95 percent of the flight time. Different routes that require RNP-4 may have different separation, equipment, and communications requirements. It is possible in the future that a route or airspace could be established that would require RNP-4 navigation capability with very high frequency (VHF) communication and radar. Some examples of routes that require RNP-4 are:

- Australian Tasman Sea (detailed guidance is contained in Australian Government, Civil Aviation Authority, AC 91U-3(0), Required Navigation Performance 4 (RNP-4) Operational Certificate);
- Eastern Russia, the Magadan region (requires FANS 1/A-equipped aircraft); and
- Western region of China and north of the Himalayas, Route 888 (because of the remoteness of the area, RNP-4, Controller-Pilot Data Link Communication (CPDLC), and Automatic Dependent Surveillance (ADS) are required).

5. Eligibility of aircraft and certification of its navigation equipment for RNP-4 must be determined:

- For RNP-4 operations in oceanic or remote airspace, at least two fully serviceable independent LRNS, with integrity such that the navigation system does not provide misleading information, must be fitted to the

aircraft. These will form part of the basis upon which RNP-4 operational approval is granted.

- For aircraft incorporating GPS, AC 20-138 or equivalent documents provide an acceptable means of complying with installation requirements for aircraft that use but do not integrate the GNSS output with that of other sensors. The current edition of AC 20-130, Airworthiness Approval of Navigation or Flight Management Systems Integrating Multiple Navigation Sensors, describes an acceptable means of compliance for multi-sensor navigation systems that incorporate GPS.
- Flightcrew training and operating procedures for the navigation systems to be used must be identified by the operator.

OPSPEC/MSPEC B037, OPERATIONS IN CENTRAL EAST PACIFIC (CEPAC) AIRSPACE. OpSpec B037 authorizes Class II Navigation in the airspace designated as CEPAC airspace. The operator must be authorized to conduct Class II Navigation in accordance with OpSpec B036a before B037 can be issued. If the operator is authorized to conduct Class II Navigation in compliance with OpSpec B036a, no additional validation tests need to be accomplished. However, before issuance, the principal operations inspector (POI) must ensure the operator has a program that includes training or briefing of flightcrews on requirements and standards for conduct of flight in CEPAC airspace.

OPSPEC/MSPEC B038, NORTH PACIFIC (NOPAC) OPERATIONS. OpSpec B038 authorizes Class II Navigation conducted in airspace designated as NOPAC operations airspace. The operator must be authorized to conduct Class II Navigation in compliance with OpSpec B036 before B037 can be issued. Validation tests of the operator's ability to operate in NOPAC airspace are required. If the operator is authorized to conduct Class II Navigation in compliance with OpSpec B036, a temporary authorization in the form of a letter may be issued so that the operator may conduct validation tests with revenue passengers. One of the purposes of validation tests for NOPAC operations is to verify the operator's ability to properly use airborne weather radar for monitoring navigational system accuracy to assure avoidance of Soviet airspace. The operator must have manual procedures on the use of airborne weather radar for this purpose. Additionally, if flights are to be conducted at or above flight level (FL) 280, the operator must have a program which trains or briefs flightcrews on requirements and standards for flight in NOPAC airspace. Use of flight navigators in NOPAC airspace (at or above FL 280) is not authorized. When validation tests are completed, OpSpec B038 may be issued.

OPSPEC/MSPEC B039, OPERATIONS WITHIN NORTH ATLANTIC (NAT) MINIMUM NAVIGATION PERFORMANCE SPECIFICATIONS (MNPS) AIRSPACE.

A. Purpose. OpSpec B039 authorizes Class II Navigation in the airspace designated as NAT/MNPS airspace. The operator must be authorized to conduct Class II Navigation in compliance with OpSpec B036 before B039 can be issued. Validation tests of the operator's ability to operate in NAT/MNPS airspace are required. If an operator has not been previously issued OpSpec B036, or when a new airplane and/or navigation system is being added to OpSpec B036, validation tests must be conducted to verify the operator's ability to conduct operations in compliance with both OpSpecs B036 and B039. When validation tests are

successfully completed, including passing specified NAT/MNPS pass or fail criteria, OpSpec B039 may be issued.

B. Airplane and Long-Range Navigation System (LRNS) Models. The airplane (make/model) and the LRNS (manufacturer/model) authorized for operations in NAT/MNPS airspace must be listed in subparagraph B039c. Dual or redundant (separate and independent) LRNS must be indicated in this list.

C. Single Long-Range Navigation System (S-LRNS). OpSpec B039 provides for flight operations in NAT/MNPS airspace over special contingency routings with an S-LRNS. Usually, all airplanes and navigational system combinations listed in OpSpec B039 should also be listed in B039, but in a manner that indicates an S-LRNS authorization. This authorization permits revenue operations while positioning the airplane for repair of a malfunctioning navigational system. Additionally, other aircraft and navigational equipment combinations which may need to be ferried over these routes in non-revenue operations should be listed. This is necessary because NAT/MNPS authorization is required regardless of revenue considerations. The following are examples of how airplanes and navigational systems authorized for flight over special contingency routings should be listed.

D. Canadian MNPS. Title 14 CFR part 135 certificate holders and 14 CFR part 91K program managers that do not have or need Class II (OpSpec B036) authorization but do need authorization to conduct flights in Canadian MNPS, may be issued OpSpec/Mspec B059 in lieu of OpSpec/Mspec B039. See Volume 4, Chapter 1, Section 5, for more information.

OPSPEC/MSPEC B040, OPERATIONS IN AREAS OF MAGNETIC UNRELIABILITY.

A. Purpose. OpSpec B040 authorizes either Class I or Class II Navigation in areas of magnetic unreliability (AMU). If flight operations in these areas involve Class II Navigation requiring long-range navigation systems (LRNS), OpSpec B036 must also be issued. Validation tests of the operator's ability to conduct flights in AMUs are required. Except for inertial navigation systems (INS), validation tests of any type of navigational equipment (or a flight navigator) must be non-revenue. When validation tests are successfully completed, OpSpec B040 may be issued. When an operator requests authorization to conduct operations in AMUs, the principal operations inspector (POI) will advise AFS–400 (202-385-4586). AFS–400 will arrange for one of the FAA's navigation specialists to work with the POI to ensure that operations in AMUs meet appropriate requirements. For more information on flight operations in AMUs, see Volume 4, Chapter 1, Section 5.

B. Airplane and Navigational Models. The airplane (make/model), the manufacturer and model of the navigational equipment, and the type of navigation (heading reference) to be used must be listed in subparagraph B040a. When pilot-operated electronic LRNS are authorized, they must be dual or redundant systems. When heading information is obtained from sources which are not inertially referenced, the manufacturer and model of the heading reference system (compasses) must also be specified. The following are examples of how this information should be listed.

Table 3-10. Examples of Airplane and Navigational Equipment Information for OpSpec B040a

AIRCRAFT TYPE (MAKE/MODEL)	NAVIGATION EQUIPMENT (MANUFACTURER/MODEL)	TYPE NAVIGATION	
		EN ROUTE	APPROACH
Doug DC10	Dual Delco Carousel IV INSS	True	True/Mag
Doug DC8	Single Litton LTN-3100 ONS, Dual Bendix PB20 Polar Path Compasses and a flight navigator	Grid	Grid/True
Lkheed 382	Dual Collins ADF 462 and dual King//Bendix KNR-634 VORs and Dual Bendix PB60 Polar Path Compasses	True/Grid Station Referenced & Pilotage	True/Grid Station Referenced & Pilotage

OPSPEC B041, NORTH ATLANTIC OPERATION (NAT/OPS) WITH TWO ENGINE AIRPLANES UNDER PART 121.

A. Purpose. OpSpec B041 is issued to those 14 CFR part 121 operators who demonstrate the capability and competency to safely conduct operations over the North Atlantic with two-engine airplanes within the 60-minute constraint of part 121, § 121.161. This paragraph restricts the authorized area of operation to those portions of the North Atlantic which have a maximum diversion time, from any point along the route of flight, to a diversionary airport of 60 minutes or less at the approved one-engine inoperative cruise speed (under standard conditions in still air). Due to the unique nature of these operations, OpSpec B041 will not be issued until review and concurrence is obtained from regional Flight Standards division (RFSD) and AFS–400. It is FAA policy and direction that these operations be evaluated and approved on a case-by-case basis. This evaluation must include consideration of the character of the terrain within the proposed area of operation, kind of operation, performance of the airplane to be used, capabilities of the alternate airports en route, and the provisions of OpSpec B041. This evaluation must also include consideration of the routes of flight, and airports and instrument approaches likely to be used during an en route diversion resulting from an in-flight contingency.

B. Other OpSpecs. Since these operations involve Class II Navigation, OpSpec B036 must also be issued. OpSpec B039 must be issued if an operation involves flight in North Atlantic Minimum Navigation Performance Specifications (NAT/MNPS) airspace. OpSpec B043 (special fuel reserves) and/or OpSpec B044 must also be issued if an operator is authorized to use the provisions of these paragraphs while conducting operations authorized by OpSpec B041. OpSpec B050 must authorize operation in the North Atlantic and must specify appropriate reference paragraphs including any restrictions/limitations necessary to

accommodate operations of two-engine airplanes in the North Atlantic. Since the operations authorized by OpSpec B041 are restricted by the 60-minute rule, these operations comply with the basic provisions of § 121.161. Therefore, a request for deviation from the basic provisions of this rule is not required for this type of operation.

C. Airplane Model. Each airplane (make/model) authorized for these operations must be listed in OpSpec B041. Any special equipment or limitations applicable to operations in the NAT/OPS area, including any prohibition of the operation of certain series of aircraft, must also be listed in OpSpec B041 for each make and model listed. The following is an example of how each authorized airplane should be listed.

Table 3-11. Example Listing of Additional Special Equipment/Limitations by Authorized Airplane

AIRPLANE TYPE MAKE/MODEL	ADDITIONAL SPECIAL EQUIPMENT/LIMITATIONS
Boeing 767	DUAL NDB REQUIRED
Airbus 310	A-310-200 ONLY

OPSPEC/LOA B043, SPECIAL FUEL RESERVES IN INTERNATIONAL OPERATIONS.

A. Purpose. OpSpec B043 provides the method for approving operators that conduct operations under 14 CFR part 121 or 125 to use fuel supplies specified in OpSpec B043 in place of fuel supplies required by part 121, § 121.645 or part 125, § 125.377, as applicable. This authorization, OpSpec B043, is applicable to 14 CFR part 119 certificate holders conducting operations under part 121 or 125. As LOA B043, it is also applicable to those operators that have been issued a deviation from the certificate and OpSpec requirements of part 125 but are still required to conduct operations in accordance with part 125.

1) This authorization grants the operator a deviation from certain requirements of § 121.645(b) or § 125.377(b), as applicable. Therefore, § 121.645(b) or § 125.377(b), as applicable, and OpSpec B043 must be listed in the operator's OpSpec A005.

2) Fuel supplies required by OpSpec B043 are a hybrid between domestic fuel reserves and international fuel reserves.

a) When a portion of the route is conducted in an area(s) where the aircraft's position can not be reliably fixed at least once each hour in accordance with paragraph B032 of these OpSpecs additional international reserve fuel supplies must be loaded in accordance with subparagraph b) below.

b) The additional reserve fuel must be equal to the amount of fuel required to fly for a period of 10 percent of the time it takes to fly that portion of the route in Class II Navigation, unless utilizing this deviation in conjunction with OpSpec B343, Fuel Reserve for Nonstandard Flag and Supplemental Operations.

B. Rationale. The rationale for the provisions of OpSpec B043 includes the following:

1) The additional international fuel supply is required only for that portion of a flight in areas where there is a lack of International Civil Aviation Organization (ICAO) standard Navigational Aids (NAVAID), reliable very-high frequency (VHF) communications, reliability of winds aloft flight planning forecast, and diversionary airports. Examples of areas lacking these facilities and services include transoceanic areas, Northern Canada, the Polar Regions, and certain areas in South America, Africa, the Middle East, and Asia.

2) The additional international reserve fuel supply is not required for flights in areas where there are ICAO standard NAVAIDs (Class I Navigation), reliable VHF communications, reliable upper air wind pattern information and availability of adequate diversionary airports.

3) For example, the additional international reserve fuel supply is not required between inter-European cities or for certain routes between U.S. cities and Central and South American cities. In another example, the additional international reserve fuel supply is not required for certain airways between the U.S. and Canada, or Alaska exclusive of the Northern Control Area (NCA) tracks which require long-range navigation systems (LRNS) to adequately navigate to the degree of accuracy required by air traffic control (ATC) Class II Navigation.

C. Reviewing the Proposed Operations. When an operator requests authorization to conduct operations using the special fuel reserves described in OpSpec B043, the principal operations inspector (POI) will advise AFS–400 or AFS–220/820 (202-267-7493) and the San Francisco International Field Office (SFO-IFO) (650-876-2756) navigation specialists as appropriate. AFS–400 will arrange for one of the FAA's navigation and aircraft dispatch aviation safety inspector (ASI) specialists to work with the POI to ensure the operator's proposed operations with special fuel reserves will meet appropriate requirements. AFS–220/820 will review the operator's request and supporting documentation and advise the POI of concurrence and or comments.

D. Operator Procedures. Before issuing OpSpec B043, the operator must develop procedures, which ensure that flightcrews and aircraft dispatchers (or flight followers) are made specifically aware of fuel supplies to be used for a particular flight.

1) The procedures must provide for strict in-flight monitoring of fuel consumption and calculation of fuel remaining at the end of flight.

2) These procedures must specifically prohibit use of the provisions of OpSpec B044 (re-dispatch or re-release) when a flight is conducted in accordance with OpSpec B043.

3) These procedures must require flightcrews report immediately to the aircraft dispatcher or flight follower anytime the estimated time of arrival at the destination exceeds 15 minutes beyond the flight plan estimated time of arrival (ETA), the cruise altitude varies by 4,000 feet or more from the flight plan, or the airplane deviates more than 100 nautical miles (NM) from the flight-planned route.

4) Procedures must be established for flightcrews, aircraft dispatchers, or flight followers, as applicable, for the reporting of a fuel emergency or any fuel states that result in coordination with ATC or dispatch that then result in ATC providing priority handling of that aircraft.

5) These procedures must be included in the operator's manual.

6) Flight crewmembers and aircraft dispatchers or flight followers, as applicable, must be trained to use these procedures.

E. Reviewing the Proposed Procedures. The POI must ensure the operator's procedures are adequate and that crewmembers and aircraft dispatchers (or flight followers), as applicable, who will be using the procedures are properly trained. The POI should request the assistance of the AFS–400 navigation specialists and AFS–220/820 specialists to review the procedures. OpSpec B043 authorization may be issued when the response from AFS–400 and AFS–220/820 has concurred that the procedures are adequate. The POI will review the response and comments and resolve any issues and issue OpSpec B043.

NOTE: OpSpec/LOA A005 must also be amended to list the deviation from § 121.645 or § 125.377, as applicable.

OPSPEC B044, PLANNED REDISPATCH OR RERELEASE EN ROUTE.

A. Authorization. OpSpec B044 provides the means for approving certificate holders that conduct operations under 14 CFR part 121 to conduct planned redispatch or planned rerelease operations in accordance with part 121, § 121.631. OpSpec B044 provides authorization for a certificate holder to conduct these operations on long range flights, provided the conditions and limitations of the paragraph are met. The term "redispatch" applies to certificate holders conducting flag operations. The term "rerelease" applies to certificate holders who are only authorized to conduct supplemental operations. For the purposes of this section, the term "redispatch" will be used when discussing both flag and supplemental operations.

1) Authorized Areas of Use. Planned redispatch can only be conducted where B044 is referenced within the specific areas of en route operations authorized by OpSpec paragraph B050, Authorized Areas of En Route Operation, Limitations, and Procedures. In other words, B044 should be authorized in all areas of B050 through which the aircraft will operate on a planned redispatch. A certificate holder cannot conduct planned redispatch operations in accordance with B044 in an authorized area of en route operations unless B044 is specifically referenced in that area.

2) Reduction in En Route Reserve Fuel. Planned redispatch, as authorized by OpSpec B044, provides for a reduction in the en route reserve fuel required by § 121.645(b)(2) by allowing that fuel to be based partially on the time it would take to get to an intermediate destination, provided the flight can be redispatched from a predetermined redispatch point, to the desired or "intended" destination.

3) Fuel Supply at the Time of a Redispatch/Rerelease. If the fuel reserves required by § 121.645(b)(2) have not been used at the time the aircraft reaches the redispatch point, then the flight can be redispatched to the intended destination as long as the fuel supply on board the aircraft is enough to allow compliance with §§ 121.645 and 121.647 (when necessary), and the conditions en route and at the intended destination airport will allow the flight to continue with safety.

B. Conditions and Limitations. B044 contains 11 specific conditions and limitations that must be complied with. Principal operations inspectors (POI) must ensure that each of the specific conditions and limitations are complied with prior to issuing B044; for the continued approval of B044; and when adding B044 to a new authorized area of en route operations. The 11 conditions and limitations are as follows:

1) Within the specific area of en route operations, the OpSpec subparagraph must be listed in OpSpec B050.

2) The dispatch or flight release must contain the following:

a) A release to the initial destination airport.

b) A plan for redispatch or rerelease from the planned redispatch or rerelease point to the intended destination airport. The planned redispatch or rerelease point must be a point that is common to both the route from the origin airport to the intended destination airport and the route from the origin airport to the initial destination airport.

c) Alternate airports for both the initial destination airport and the intended destination airport in accordance with § 121.621 or § 121.623.

d) The fuel required to fly from the origin airport and land at the initial destination airport.

e) The fuel required to fly from the redispatch or rerelease point and land at the intended destination airport.

f) The total fuel required to fly from the origin airport and land at the intended destination airport based on the redispatch or rerelease. In determining these fuel requirements, the certificate holder must comply with § 121.647.

g) The appropriate weather reports, forecasts, and Notices to Airmen (NOTAM) affecting the route to be flown, and the facilities at all airports specified in the dispatch or flight release.

3) The flight plan must be prepared prior to departure from the origin airport to the initial destination airport and from the redispatch or rerelease point to the intended destination airport. The flight plan must contain an operational analysis that includes the following:

a) The total fuel listed in subparagraph b(2)(f) of this OpSpec.

b) Routes to be flown, including the flight levels. The portions of the routes that are common to both the route from the origin airport to the initial destination airport, and the route from the origin airport to the intended destination airport, may be combined in the body of the flight plan.

c) Estimated times en route.

d) Alternate airports for both the initial destination airport and the intended destination airport in accordance with § 121.621 or § 121.623.

4) A new operational analysis must be conducted within 2 hours prior to the flight's arrival at the planned redispatch or rerelease point. In preparing the new operational analysis, the dispatcher or person designated to exercise operational control (other than the pilot in command (PIC)) must:

a) Conduct an updated fuel analysis based on the current route of flight, wind conditions, and aircraft weight, on the route from the planned redispatch or rerelease point to the intended destination airport, and any required alternate airports; and

b) Inform the PIC of the results of the updated fuel analysis and all current information concerning weather conditions, navigation and ground facilities, known air traffic delays, and services at the intended destination and alternate airports specified in the redispatch or rerelease, as required by § 121.601I for flag operations, or § 121.603(b) for supplemental operations.

5) If the operational analysis required in subparagraph b(4) of this OpSpec indicates there is sufficient fuel on board (FOB) to complete the redispatch or rerelease to the intended destination airport, the dispatcher or person designated to exercise operational control (other than the PIC) must issue a dispatch or flight release from the planned redispatch or rerelease point to the intended destination airport. That redispatch or rerelease must contain:

a) A release from the planned redispatch or rerelease point to the intended destination airport;

b) Updated route, if required based on the operational analysis conducted in subparagraph b(4) of this OpSpec;

c) Alternate airport for the intended destination airport, as required by § 121.621 or § 121.623;

d) The fuel required to fly from the planned redispatch or rerelease point and land at the intended destination airport. In determining these fuel requirements, the certificate holder must comply with § 121.647;

e) The appropriate weather reports, forecasts, and NOTAMs affecting the route to be flown, and the facilities at all airports specified in the dispatch or flight release; and

f) The name of the dispatcher or person authorized to exercise operational control issuing the redispatch or rerelease along with the time of issuance.

6) The PIC's decision on whether or not to accept the redispatch or rerelease shall be made part of the redispatch or rerelease. The redispatch or rerelease must be retained in accordance with § 121.695 or § 121.697, as applicable.

7) If while the aircraft is en route the flight cannot continue in accordance with the dispatch or flight release provided in subparagraph b(2) or b(5) of this OpSpec, the certificate holder must comply with the provisions of § 121.631(f) and (g) to amend the release.

8) Loss of communication:

a) If there is a total loss of communication while en route, the PIC must follow the lost communications procedures as outlined in the Aeronautical Information Manual (AIM), or the provisions specified in International Civil Aviation Organization (ICAO) Annex 2, as applicable to the airspace in which communication is lost.

b) If there is a total loss of communication while en route, the aircraft dispatcher or person designated to exercise operational control must follow the emergency procedures set forth in § 121.557(b) and (c) for flag operations, and § 121.559(b) and (c) for supplemental operations.

9) If the estimated time of arrival (ETA) at the initial destination or intended destination exceeds 15 minutes beyond the flight plan, or the cruise altitude varies by 4,000 feet or more from the flight plan, or the airplane deviates more than 100 nautical miles (NM) from the route specified in the flight plan, the flightcrew must notify the aircraft dispatcher or person designated to exercise operational control as soon as practicable. The aircraft dispatcher or person designated to exercise operational control must then evaluate the FOB and determine if additional action is necessary.

10) The certificate holder must establish policies and procedures for monitoring the actual fuel burn during flight and comparing it to the planned fuel burn. The certificate holder must conduct a real time analysis of any fuel burn en route that exceeds the planned fuel burn, and ensure sufficient fuel remains at the redispatch or rerelease point to allow a flight to continue to the intended destination airport. If sufficient fuel for continuation to the intended destination is not onboard the aircraft at the time of redispatch or rerelease, the certificate holder must have policies and procedures in place to ensure the flight lands at the initial destination or alternate airport or, if appropriate, amend the dispatch or flight release to include another suitable airport authorized for that type of aircraft.

11) The provisions of this OpSpec must not be used in conjunction with the provisions of OpSpecs B043 or B343.

C. Certificate Holder's Policies and Procedures. Prior to issuing B044, POIs must ensure that the certificate holder's manuals for use by flightcrew members and dispatchers (or persons designated to exercise operational control if the certificate holder is only authorized to conduct supplemental operations) contain adequate policies and procedures regarding the

authority contained in OpSpec B044 and comply with each of the conditions and limitations contained therein.

NOTE: POIs must ensure that an aviation safety inspector (ASI)-aircraft dispatcher (AD), commonly referred to as a dispatch inspector or dispatch safety inspector (DSI), reviews the certificate holder's procedures and methods of compliance with the conditions and limitations. If there is no ASI-AD resource available in the certificate-holding district office (CHDO), the POI should contact the regional Flight Standards division (RFSD) for assistance in locating a DSI within the region. If the RFSD is unable to locate an ASI-AD resource, then the appropriate branch of the RFSD should send a request for assistance to AFS-200 in locating an ASI-AD to provide the necessary subject matter expertise. The guidance and instructions for ensuring compliance with the conditions and limitations of OpSpec B044 should be completed by both the POI and ASI-AD (DSI).

D. Training. The certificate holder applying for OpSpec B044 must provide evidence that their approved training program includes information and instruction for flightcrew members and dispatchers, or persons designated to exercise operational control, on the application of the authorization, and compliance with the conditions and limitations contained in B044. If the approved training program does not contain the necessary information, then the POI must ensure that the certificate holder submits a revised training program for approval that does include this requirement, prior to issuing this OpSpec.

E. Issuing the OpSpec. POIs must refer to the B044 Job Aid contained in the Operations Specifications Subsystem (WebOPSS). The Job Aid can be found by clicking on the "Guidance" tab applicable to B044 in WebOPSS. POIs must also review the guidance regarding planned redispatch and rerelease contained in Volume 3, Chapter 25, Section 4. Once the POI reviews the additional guidance and job aid, and establishes that the certificate holder's policies, procedures, and approved training program adequately incorporate and comply with all of the conditions and limitations contained in OpSpec B044, he or she may issue the OpSpec paragraph.

OPSPEC B045, EXTENDED OVERWATER OPERATIONS USING A SINGLE LONG-RANGE COMMUNICATION SYSTEM.

A. Requirements. All 14 CFR part 121 operations must be conducted in accordance with part 121, §§ 121.711 and 121.359. All 14 CFR part 125 operations must be conducted in accordance with part 125, § 125.203(e). All 14 CFR part 135 operations must be conducted in accordance with part 135, § 135.151. Each airplane equipped with only one operating high frequency (HF) or satellite link communication system must be capable of monitoring and communicating with air traffic control (ATC) during the flight segment when the airplane is operated beyond the range of ground-based very-high frequency (VHF) radio communications equipment.

B. Letters of Agreement. Prior to commencing operations in the extended overwater area approved in OpSpec B045, the carrier will enter into and obtain letters of agreement from the appropriate oceanic control areas. Copies of these letters should be maintained by FAA in the OpSpecs correspondence file.

C. VHF Communications Gap. All flights in oceanic airspace conducted with a functional Single Long-Range Communication System (SLRCS), over any airway or other approved route should not normally exceed a two-way VHF communications gap of 30 minutes when operating at the aircraft's normal en route altitude.

D. Exceeding the VHF Communications Gap. A request for authorization to operate over a portion of a route that exceeds a 30-minute VHF communications gap may be submitted to the Administrator if the oceanic control center agrees by letter. The certificate holder may request approval for a nonstandard OpSpec B045 that meets the requirements of §§ 121.351I, 125.203(e), or 135.165(d), as applicable. The nonstandard OpSpec B045 must be requested from the Administrator through AFS–200 or the General Aviation and Commercial Division (AFS-800) as appropriate.

E. Part 135. If operations are conducted under part 135 using this OpSpec paragraph, each certificate holder's manual will contain procedures that ensure that the additional requirements of OpSpec B045 subparagraph f are met.

F. Part 125. If the operations are conducted under part 125 using this OpSpec B045, each certificate holder's manual will contain procedures that ensure that the additional requirements of OpSpec B045 subparagraph e are met.

G. Functional Check Procedures. The certificate holder's manual will contain procedures to ensure that the pilot in command (PIC) satisfactorily completes a functional check of the SLRCS prior to entering oceanic airspace.

H. Principal Operations Inspector (POI) Dispatch Manual Review. The POI will review the dispatch manual, if appropriate, to ensure the proper procedures have been included.

I. POI Training Program Review. The POI will review and approve any changes to the training program to ensure that all flightcrews are familiar with the use of this authorization. The POI should ensure that overwater SLRCS has been incorporated and appropriately addressed in the certificate holder's approved training curricula. Part 125 initial and recurrent pilot testing programs should be updated with applicable information from these paragraphs.

J. Coordination Requirements. Coordination with avionics and airworthiness inspectors is required to ensure proper installation of the SLRCS.

K. Minimum Equipment List (MEL) Review. The MEL should be reviewed to ensure that the deferral of communications equipment does not conflict with this authorization. See Volume 4, Chapter 1, Section 2, Paragraph 4-27.

OPSPEC/MSPEC B046, OPERATIONS IN REDUCED VERTICAL SEPARATION MINIMUM (RVSM) AIRSPACE.

A. Purpose. OpSpec B046 provides general authority for RVSM airspace operations RVSM airspace authorization is applicable to all 14 CFR part 91 operators and 14 CFR part 121, 125, and 135 certificate holders that have been or wish to be authorized to operate on RVSM route systems. RVSM is in effect in the North Atlantic, the Pacific Oceanic Flight Information Regions (FIR) including the North Pacific (NOPAC) and Central East Pacific (CEPAC) Route Systems. RVSM programs enable 1,000-foot vertical separation to be applied between aircraft above flight level (FL) 290. Part 91, § 91.706, Operations Within Airspace Designed as Reduced Vertical Separation Minimum Airspace, and part 91 appendix G, Operations in Reduced Vertical Separation Minimum (RVSM) Airspace, provide regulatory policy for RVSM programs.

B. RVSM FIRs and FLs. The FIRs where RVSM may be implemented are listed in part 91 appendix G. The specific FLs where RVSM is implemented within each FIR are published in the Aeronautical Information Publication (AIP) and Notices to Airmen (NOTAM) published by the responsible Air Traffic Service (AAT) provider. Each operator that is authorized RVSM operations is responsible for verifying those FLs before conducting RVSM operations.

C. Relationship Between Minimum Navigation Performance Specification (MNPS) and RVSM Approvals. If the operator intends to operate in MNPS airspace at FLs where RVSM is applied, then approval of both lateral and vertical navigation performance is required. For part 121, 125, and 135 operators, paragraphs B039 (MNPS), B046, and D092 must be issued. If these operators choose to operate in MNPS at FLs where RVSM is not applied, then only approval of lateral navigation through issuing paragraph B039 is required.

D. Specific Emphasis. Two items have shown to need specific emphasis in RVSM authorizations:

1) Training on the Effect of RVSM on Traffic Alert and Collision Avoidance System (TCAS) Operations. Operators whose aircraft are equipped with TCAS must ensure that pilots are knowledgeable on the effect of RVSM on TCAS operation.

2) Wake Turbulence Procedures. Operators must ensure that pilots are knowledgeable on lateral offset procedures to mitigate the effect of wake turbulence. AAT providers have published procedures to enable pilots to mitigate the effect of wake turbulence in oceanic airspace where RVSM is applied.

E. Verification of Aircraft RVSM Eligibility. Aviation safety inspectors (ASI) need to confirm an aircraft's eligibility to conduct RVSM operations. The aircraft engineering and maintenance that are required for an in-service aircraft to be approved for RVSM operations have normally been documented in Service Bulletins (SB) and Aircraft Service Changes. These documents have been developed by aircraft manufacturers and reviewed by the appropriate Aircraft Certification Office (ACO) prior to distribution. Since the initial implementation of RVSM in March 1997, a number of aircraft manufacturers have incorporated RVSM aircraft equipage and altitude-keeping performance requirements into the certification process for

production aircraft. In such cases, SBs or Aircraft Service Changes should not be required. If questions arise on the RVSM eligibility, ASIs can contact the Aircraft Engineering Division (AIR-100) at (202) 267-9580, or AFS–400 at (202) 385-4586. For RVSM eligibility of in-production or new-production aircraft, Flight Standards inspectors should request that the operator provide them with a copy of one of the following documents:

1) The Aircraft Flight Manual (AFM) should contain a statement that the aircraft is eligible for operation in RVSM airspace, or

2) The type certificate data sheet (TCDS) can specifically describe the avionics configurations and continued airworthiness criteria, or provide reference to FAA-approved documentation in the form of a written report.

F. Evaluating the Operator's Programs. The operator should submit the maintenance program and the operations program for approval simultaneously. Evaluation of operations programs should be completed in conjunction with the evaluation of Continuous Airworthiness Maintenance Programs (CAMP). OpSpec D092, Maintenance Program Authorization for Airplanes Used for Operations in Designated Reduced Vertical Separation must also be issued for RVSM authorization. OpSpec D092 lists the aircraft that are authorized and maintained in accordance with an approved maintenance program.

G. OpSpec B050. OpSpec paragraph B046 should be listed in the specific areas of operation listed in OpSpec paragraph B050 when the operator is granted authorization to conduct RVSM operations in those areas. If an operator has RVSM authorization, the principal operations inspector (POI) must ensure that the differences in procedures for a new area of operation are addressed before adding OpSpec B046 to the new area in B050.

H. Further Guidance. For extensive and inclusive guidance and documentation for RVSM authorization, go to the RVSM homepage at: http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/enroute/rvsm/. For other questions, contact the navigation specialists in AFS–400 at (202) 385-4586.

OPSPEC B047, CLASS II NAVIGATION USING A FLIGHT NAVIGATOR.
OpSpec B047 authorizes the use of a flight navigator in Class II Navigation. Operator requests for an option that authorizes the use of flight navigators as the primary means of Class II Navigation occur infrequently. When an operator requests authorization to use a flight navigator in any of the areas listed in OpSpec B050, the principal operations inspector (POI) will advise AFS–400 (202-385-4586). AFS–400 will arrange for one of the FAA's navigation specialists to work with the POI to ensure the operator's long-range navigation (LRN) program (including the use of a flight navigator) meets appropriate requirements.

OPSPEC B048, OPERATIONS IN THE VICINITY OF THE HAWAIIAN ISLANDS.
OpSpec B048 contains specific operational limitations and provisions for granting an operator deviation authority to conduct sightseeing and air tour operations in the state of Hawaii below 1,500 feet above the surface. Special Federal Aviation Regulation (SFAR) 71, Special Operating Rules for Air Tour Operators in the State of Hawaii, prescribes the operating rules for airplane and helicopter operators to conduct visual flight rules (VFR) sightseeing and air tour operations

in Hawaii. This authorization cannot be issued to fractional ownership program managers (14 CFR part 91K).

A. SFAR 71 Procedures Document. Each operator must have a FAA-approved SFAR 71 Procedures Document that contains a minimum of the following:

1) A description of specific sites, transition segments, and overwater segments.

2) The restrictions that apply for operations below 1,000 feet above the surface at specific sites, including height-velocity restrictions and raw terrain descriptions.

3) An identification of designated areas at specific sites or transition segments suitable for an emergency landing in the event of an engine failure.

4) A description of the planned entry to and egress from the approved specific sites.

5) The operator's plan for ensuring that its pilots conducting flights under this authorization will conduct or participate in at least one formal air tour safety meeting each 12 calendar-months, beginning from the commencement of air tour operations, to discuss safety issues and procedures that pilots will follow while conducting operations under SFAR 71. This plan should include:

a) Provisions for the documentation of each pilot's attendance at the air tour safety meetings that must be retained for a minimum of one year or until the training is repeated, whichever is later.

b) The operator's plan for notifying the Honolulu Flight Standards District Office (FSDO) at least 10 days prior to these meetings to give the FAA an opportunity to participate.

B. SFAR 71 Training Program. Each operator must have an FAA-approved SFAR 71 training program that covers at least the following:

1) The provisions and limitations of SFAR 71 and the operator's FAA-approved SFAR 71 Procedures Document.

2) Initial training for each pilot, which includes flight instruction by an authorized company instructor over all site-specific locations for operations being conducted under SFAR 71.

3) Each pilot in command (PIC) will have passed a 14 CFR part 135, § 135.299 line check, which includes a representative SFAR 71 transition segment and site-specific area conducted by the Administrator or company check airman.

4) All other applicable limitations and provisions contained in OpSpec B048.

C. Initial Evaluation. The Administrator will conduct an initial evaluation of each company flight instructor over all site-specific locations before authorizing the instructor to conduct flight instruction for operations being conducted under SFAR 71.

D. Pilot Requirements. Each pilot using the provisions of this authorization who is conducting sightseeing operations under § 135.1I will be knowledgeable of SFAR 71 and operate in accordance with the provisions and limitations of OpSpec B048. Initially, and thereafter annually, each pilot must satisfactorily complete both knowledge and flight tests administered by an FAA aviation safety inspector (ASI) qualified to perform this function.

E. Additional Limitations and Provisions. The principal operations inspector (POI) has the option of adding additional limitations and provisions for specific Hawaiian Islands in subparagraph e of OpSpec B048 without going through the nonstandard paragraph processing. If this feature is not required, the POI must not leave the selection blank but enter N/A in place of any additional limitations and provisions.

F. OpSpec B050. OpSpec B050 must refer to OpSpec B048, as applicable.

G. OpSpec A005. Because this OpSpec B048 authorizes a deviation to SFAR 71, it must be listed in OpSpec A005. It should be recorded as "SFAR 71 section 6" with the statement in the remarks column: "Ops below 1,500 feet AGL."

OPSPEC B049, OPERATIONS IN THE GRAND CANYON NATIONAL PARK SPECIAL FLIGHT RULES AREA.

A. Purpose. OpSpec B049 contains specific operational limitations and provisions for granting an air carrier the authority for air tour operations in the Grand Canyon National Park-Special Flight Rules Area (GCNP-SFRA). The current edition of FAA Order 1380.2, Las Vegas FSDO Grand Canyon National Park Special Flight Rules Area Procedures Manual, outlines the procedures for this authorization. This manual may be obtained from the Las Vegas Flight Standards District Office (FSDO), Grand Canyon Unit. The Las Vegas FSDO will also provide the principal operations inspector (POI) with a memorandum outlining the process for authorizing air tour operations in the GCNP-SFRA. This authorization cannot be issued to fractional ownership program managers (14 CFR part 91K).

B. Tours Per Year. In accordance with 14 CFR part 93, § 93.319(a), no operator may conduct a greater number of commercial air tours per calendar year than the number of allocations appearing on the operator's OpSpec B049, unless excepted by regulation. Each commercial air tour operator operating in the GCNP-SFRA is permitted to operate a certain fixed number of air tours per calendar year.

1) No operator will receive a greater number of allocations than the number of commercial air tours conducted by the operator in the GCNP-SFRA and reported to the FAA during the period beginning May 1, 1997 and ending April 30, 1998.

2) Each operator who reported air tours in the GCNP-SFRA receives allocations designated for that operator only.

3) Operators who reported commercial air tours in the Dragon and/or Zuni Point Corridors receive specific allocations for these corridors. These Dragon and/or Zuni Point Corridor allocations are included as a part of the total allocations designated for each operator, if appropriate.

4) An operator must use one allocation for each flight that is a commercial air tour, unless excepted by regulation.

5) An operator may use allocations designated for the Dragon or Zuni Point Corridors outside of those areas, but may not use allocations not specifically designated for the Dragon or Zuni Point Corridors within the Dragon and Zuni Point Corridors.

6) An operator who meets the requirements for commercial SFRA operations and operates in conformance with its GCNP-SFRA OpSpecs is not required to use a commercial air tour allocation for each commercial air tour flight in the GCNP-SFRA if the following conditions are met:

a) The operator must have executed a written contract with the Hualapai Indian Nation granting the operator a trespass permit and specifying the maximum number of flights to be permitted to land at Grand Canyon West Airport and at other sites located in the vicinity of that airport.

b) The operator must operate in compliance with that contract.

c) The operator must have a valid OpSpec B049 that authorizes the operator to conduct the operations specified in the contract with the Hualapai Indian Nation and specifically approves the number of operations that may transit the GCNP-SFRA under this exception.

7) Operators who have previously conducted commercial air tours in the GCNP-SFRA may continue to do so without an initial allocation if they did not receive an initial allocation in 1999 or 2000 for one of the following reasons:

a) The operator conducted commercial air tours at or above 14,500 feet mean sea level (MSL) but below 18,000 feet MSL and was not required to report during the base year. The operator does not require an allocation to continue to conduct air tours at those altitudes.

b) The operator conducted commercial air tours in the area affected by the eastward shift of the SFRA boundaries and was not required to report during the base year. The operator does not require an allocation to continue operating on its specified routes in the area bounded by longitude line 111º42” west and longitude line 111º36” west.

C. Commercial Sightseeing Flight Reporting Requirements. In accordance with § 93.325, each operator conducting commercial sightseeing flights within the GCNP-SFRA will submit in writing, within 30 days of the close of each calendar quarter, the total number of commercial air tours conducted within the GCNP-SFRA during that quarter. The quarterly reports must be filed with the Las Vegas FSDO and must contain the following information:

- Make and model of aircraft;
- Identification number (registration number) for each aircraft;
- Departure airport for each segment flown;
- Departure date and actual Universal Coordinated Time, as applicable for each segment flown;
- Type of operation; and
- Route(s) flown.

D. Maximum Number of Allocations. The maximum number of allocations for the Dragon and/or Zuni Point Corridors and the maximum number of total allocations for the GCNP-SFRA must be listed in OpSpec B049 subparagraph a(2). See the OpSpecs job aid in the automated Operations Safety Subsystem (OPSS) Guidance Subsystem in association with OpSpec B049 for examples.

1) The operator may not be authorized to conduct more commercial air tours in the GCNP-SFRA per year than the number of initial allocations authorized in OpSpec B049, unless permitted by exemption. If an exemption is granted, this number should be altered accordingly in OpSpec B049 and the exemption listed in OpSpec A005.

2) The Grand Canyon Unit of the Las Vegas FSDO, (702) 269-1445, is the source for this number of authorized commercial air tours for each operator.

E. Curfew Limitations. As appropriate, the operator must comply with the curfew limitations of § 93.317. It reads, "Unless otherwise authorized by the Flight Standards District Office, no person may conduct a commercial Special Flight Rules Area operation in the Dragon and Zuni Point corridors during the following flight-free periods:

1) "Summer season (May 1 - September 30) - 6 p.m. to 8 a.m. daily; and

2) "Winter season (October 1 - April 30) - 5 p.m. to 9 a.m. daily."

F. OpSpec B050. OpSpec B049 must be referenced in OpSpec B050, as applicable.

OPSPEC/MSPEC B050, AUTHORIZED AREAS OF EN ROUTE OPERATION, LIMITATIONS, AND PROCEDURES. This section provides operators and principal operations inspectors (POI) with detailed information on the WebOPSS functionality with regard to the issuance of B050:

- Paragraph A—Provides general overview.
- Paragraph B—Describes process steps for the development of B050.
- Paragraph C—Includes a list and definitions of the standard authorized areas as displayed in WebOPSS.
- Paragraph D—ETOPS Areas of Operation/B050 interface.
- Paragraph E—Guidance for adding areas with limited FAA oversight.

A. Purpose. B050 must specify only the areas of en route operation (or individual routes that have specific limitations or procedures associated with the route) for which the operator is authorized to conduct under 14 CFR parts 91 subpart K (91K), 121, 121/135, 125 (including Letter of Deviation Authority (LODA) 125 operators), and 135 operations. B050 must include all areas of en route operation where the operator conducts scheduled and nonscheduled operations. B050 prohibits operations in areas not listed. It is important to consider those areas where the operator may conduct nonscheduled operations. When amending B050, the POI should review the guidance for OpSpec/Mspec/LOA B450, Sensitive International Areas, to determine if B450 needs to be updated as well.

B. B050 Process Steps. To prepare B050 for issuance, the POI or operator must accomplish the following:

1) Coordinate with the operator to prepare the "list of the areas of en route operation." The POI should work directly with the operator when preparing the list. This is particularly important when extensive international operations are involved. Operators requesting approval for special areas of operation (SAO) (e.g., North Atlantic Tracks (NAT)/Minimum Navigation Performance Specification (MNPS), area of magnetic unreliability (AMU), or initial Class II Navigation authorization) must consult a SAO specialist, as required by policy in Order 8900.1.

2) Obtain the "list of areas of en route operation." The WebOPSS guidance contains detailed information on geographical areas.

3) Select the individual areas of en route operation for authorization. Paragraph C contains the areas listing. All selected areas must be contiguous. For example, if "the 48 contiguous United States and the District of Columbia" and "the State of Hawaii" are selected and operations will be authorized between those areas, make an appropriate selection for the Pacific Ocean. The WebOPSS application approves all of the selected countries and/or territories within the authorized area by default. WebOPSS allows countries within the selected authorized area to be included, excluded, or overfly. Explanations of these selections are below:

a) None (Default) is the preferred method of selection. This selection allows selection of the entire prescribed authorized area of en route operations. In some cases FAA Headquarters unilaterally restricts some countries for the None (Default) selection. An example is Asia—Excluding North Korea, Special Federal Aviation Regulation (SFAR) 79. In this example North Korea is restricted from the selections of Include, Exclude, or Overflight. In the case where an SFAR is applicable, the POI must inform the carrier. Headquarters will remove the SFAR country from its current authorized area and develop a new selectable authorized area of en route operation that addresses the SFAR. Headquarters will issue a notice announcing the change.

b) Include is used in the rare case when the operator selects an authorized geographic area, but only one or two countries are approved for flight operations over or within those countries in the authorized area. For part 121 scheduled operators, OpSpec C070 must list the authorized airports. Use Include to authorize a geographic area where the operator has completed validation tests for the specific country, but not the entire authorized area of en route

operations. This allows the operator who has limited exposure to a complicated navigation area to operate into a specific country that it has demonstrated competency by validation testing. For example, an operator is authorized operations into Hong Kong, Macao, or Taiwan, but not mainland China. Both altitude measurement standards and Reduced Vertical Separation Minimum (RVSM) procedures are different in these locations from the rest of China.

c) Exclude is used when an authorized geographic area includes a country or territory where restrictions (e.g., economic sanctions) or Notices to Airmen (NOTAM) regarding potentially hazardous conditions exist. Reasons for exclusion can be, but not limited to, NOTAM, politically sensitive areas, operator preference, or operational capabilities. An example of exclusion would be Yemen. Yemen would be selected as Exclude from the area of the Middle East—Excluding Iraq. Note that Iraq is already excluded from the Middle East due to SFAR 77.

d) Overflight is used when a geographic area is authorized, but selected countries are only authorized for overflight operations. Similar to Exclude, use Overflight when an operator has authorization to overfly a geographic area where restrictions such as economic sanctions or NOTAMs regarding potentially hazardous conditions exist. Reasons for overflight can be, but are not limited to: NOTAMs, politically sensitive areas, operator preference, or operational capabilities. For example, to authorize overflight of Cuba, an operator would be authorized Caribbean Sea—Including the islands/nations and the Havana flight information region (FIR), with Cuba selected for overflight.

4) The operator or POI should use B050 subparagraph b Table 2, Limitations, Provisions, and Special Requirements, for any special operational considerations (refer to Table 3-15). Each limitation, provision, or special requirement number must be associated with the applicable authorized area of B050 in the Notes Reference # column of Table 1. The following are examples of Limitations, Provisions, and Special Requirements:

a) Limitation–Specific route approval required to maintain compliance with OpSpec A013 (Part 121, 125, and 135 Operations without Certain Emergency Equipment). Specific route approval would avoid operations beyond 162 nautical miles from shoreline in the Gulf of Mexico and the Caribbean.

b) Provision–Authorization to land at Guantanamo Bay NAS.

c) Special Requirement–If an operator has multiple engine/airframe combinations approved for ETOPS, and not all engine/airframe combinations are authorized in all areas listed in B050, the operator should list the specific engine/airframe combination as a note reference.

5) WebOPSS will auto-fill required paragraphs in B050 Table 1, Reference Paragraphs, column for each area of en route operation by CFR part. For example, for parts 121 and 135, WebOPSS will auto-fill B031 and B032. In part 135, B032 does not apply to visual flight rules (VFR)-only operations; therefore, it must be manually deleted for those types of operations.

6) In certain areas of en route operation, reference paragraphs are mandatory (Central East Pacific (CEP), B037; North Pacific (NOPAC), B038; NAT/MNPS, B039; and AMU, B040). These required paragraphs have been preloaded as reference paragraphs in B050. The POI must not manually delete these mandatory reference paragraphs when the operator is authorized to operate in these areas. The certificate holder must meet the requirements of those authorizations, and B050 must include references to those authorizations.

7) The operator or POI will select the mandatory paragraphs referenced in each area that is applicable to the CFR part. The guidance for these paragraphs is below. Evaluate and select optional paragraphs that apply to the operation in that area of operation. It is important to note that initial authorization for optional paragraphs must be coordinated with a specialist, as indicated. Upon receiving initial approval, the POI, in coordination with a SAO specialist and/or ETOPS specialist, is responsible to determine whether further validation is necessary when authorizing additional areas.

a) For example; an operator obtains ETOPS authority for a B-767 operation in Canada and the North Atlantic. The operator will add B342 in the reference paragraph in Canada and the North Atlantic MNPS airspace. The operator then requests to fly the same aircraft, B-767, from the West Coast to Hawaii. This requires the operator to validate this operation before placing B342 in the Central and South Pacific airspace in the reference paragraphs. The POI should consult the AFS-200 ETOPS specialist when determining whether to include these reference paragraphs.

b) Manually add other applicable optional reference paragraphs to a specific area of en route operation. These other reference paragraphs either specify a requirement such as long-range navigation (LORAN) equipment, or grant a specific authorization such as, use of Area Navigation (RNAV) equipment for Class I navigation. The POI must determine which reference paragraphs are pertinent to each area of en route operation. These other reference paragraphs may include, but are not limited to, the following:

- B034—IFR Class I Terminal and En Route Navigation Using Area Navigation Systems.
- B035—Class I Navigation in the U.S. Class A Airspace using Area Navigation or Long-Range Navigation Systems.
- B036—Class II Navigation Using Multiple Long-Range Navigation Systems (LRNS).
- B037—Operations in Central East Pacific (CEP) Airspace.
- B038—North Pacific (NOPAC) Operations.
- B039—Operations in North Atlantic (NAT) Minimum Navigation Performance Specifications (MNPS) Airspace.
- B040—Operations in Areas of Magnetic Unreliability.
- B041—North Atlantic Operations with Two-Engine Airplanes Under Part 121.
- B043—Special Fuel Reserves in International Operations.
- B044—Planned Redispatch or Rerelease En route.

- B045—Extended Overwater Operations Using a Single Long-Range Communications System.
- B046—Operations in Reduced Vertical Separation Minimum (RVSM) Airspace.
- B054—Class II Navigation Using Single Long-Range Navigation System (S-LRNS).
- B055—North Polar Operations.
- B059—Canadian MNPS Airspace. (B059 is only issued to part 135 operators.)
- B342—Extended Operations (ETOPS) with Two-Engine Airplanes Under Part 121.
- B343—Fuel Reserves for Flag and Supplemental Operations.
- B344—Extended Operations (ETOPS) in Passenger-Carrying Airplanes with More Than Two Engines Under Part 121.

8) After the reference paragraphs are either deleted or added, any special requirement pertinent to an area of en route operation or to a particular aircraft operating within the area must be prepared and added to B050. The recommended method for accomplishing this is the use of the B050 Table 2, Limitations, Provisions, and Special Requirements. In the Notes Reference # column, notes should be consecutively and uniquely numbered. After each unique number in the Note Reference # column the applicable limitation, provision, or special requirements must be described in the Limitations, Provisions, and Special Requirements column. The note reference number must also be entered in the Note Reference # column in Table 1 adjacent to each area of en route operation to which the note applies. The following illustration is an example of how special requirements can be annotated. For the purpose of illustration, the example presumes an operator authorized to conduct operations under part 121.

Table 3-15. Example of Special Requirements Annotations for a Part 121 Operator

Authorized Areas of En Route Operation	Reference Paragraphs	Note Reference #
Atlantic Ocean—West Atlantic Route System (WATRS)—The North Atlantic Ocean west of the western boundary of NAT/MNPS airspace to include the San Juan control area (CTA)/FIR and the Atlantic portion of the Miami Oceanic CTA	A056, B031, B032, B034, B036, B045, B046, B054, B342	3, 7

Note Reference #	Limitations, Provisions, and Special Requirements
3	B-777—CPDLC Operations for New York Oceanic, Gander and Shanwick FIRs only
7	ETOPS—B-757-212 P/W 2037 engines only

C. Listing and Explanation of Authorized Areas of En Route Operation. The authorized areas of en route operations below are the standard selections from WebOPSS. The composition of each authorized area of operations is contained in the Authorized Areas Country Listing document located in the WebOPSS guidance area associated with B050. The optional paragraphs below may not include all paragraphs. The POI must consult with FAA headquarters for applicability of nonstandard paragraphs in B050. The list below does not include certain Part A OpSpecs. The POI is responsible to ensure that any Part A paragraphs that reference B050 are listed in the Reference Paragraph column of the applicable area of operation. Certain optional paragraphs will require consultation with one or more of the following: SAO specialist, Dispatch inspector, ETOPS specialist. The optional reference paragraphs that require consultation with a specialist will be identified by an asterisk (*). Examples include B044 (Re-dispatch), B043 (Special Fuel Reserves), initial Class II navigation (B036 or B054), B055 (Polar Operations), and B342 (ETOPS). Each area listed below contains a short explanation of the geographic area followed by a standard list of considerations for each area selected. The inspector should ensure that the required paragraphs are issued to the operator. The operator may require optional paragraphs depending on its complexity and type of operation.

1) Africa—Ethiopia, SFAR 87. Select this area of operation when an operator plans operations within the territory or airspace of Ethiopia. The operator must comply with SFAR 87.

a) Headquarters Approval. Yes, contact AFS-200.

b) SAO Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), and B450.

e) Optional Paragraphs. B032, B034, B043*, B044*, B046, and B343*.

NOTE: B036 not required for operations within Ethiopia. B343 requires Headquarters approval.

2) Africa—Excluding Ethiopia and Somalia. Select this area of operation when an operator plans operations within the territory or airspace of the geographic area of Africa, except Ethiopia and Somalia.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), and B450.

e) Optional Paragraphs. B032, B034, B043*, B044*, B046, B342*, and B343*.

NOTE: B036 not required for operations within Africa. B342 and B343 require Headquarters approval.

3) Africa—Somalia, SFAR 107. Select this area of operation when an operator plans operations within the territory or airspace of Somalia. The operator must comply with SFAR 107.

a) Headquarters Approval. Yes, contact AFS-200.

b) SAO Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), and B450.

e) Optional Paragraphs. B032, B034, B043*, B044*, B046, and B343*.

NOTE: B036 is not required for operations within Somalia. B343 requires Headquarters approval.

4) Asia—Excluding North Korea. Select this area of operation when an operator plans operations within the territory or airspace of the geographic area of Asia, except North Korea.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), and B450.

e) Optional Paragraphs. B032, B034, B043*, B044*, B046, B342*, and B343*.

NOTE: RVSM in China (Metric) differs from International Civil Aviation Organization (ICAO) standards. B342 and B343 require Headquarters approval.

5) Asia—North Korea SFAR 79 (Portions of Pyongyang FIR). Select this area of operation when an operator plans operations within the territory or airspace of North Korea. The operator must comply with SFAR 79.

a) Headquarters Approval. Yes, contact AFS-200.

b) SAO Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), and B450.

e) Optional Paragraphs. B032, B034, B043*, B044*, B046, and B343*.

NOTE: B343 requires Headquarters approval.

6) Atlantic Ocean—The Atlantic Ocean Islands/Nations. Select this area of operation when an operator plans operations within the territory or airspace of the islands and nations in the Atlantic Ocean bound in the north by 78° N. latitude and to the sound by 67° S. latitude.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. No. (Refer to the special notes below.)

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), and B450.

e) Optional Paragraphs. B032, B034, B039*, B043*, B044*, B046, and B343*.

NOTE: Selection of this area will require authorization of at least an additional Atlantic Ocean navigational area. The additional navigational area may require coordination with a SAO specialist. OpSpec B343 requires Headquarters approval.

7) Atlantic Ocean—The North Atlantic Ocean Specified as "Special Contingency Routings" in the Current Edition of the U.S. International Flight Information Manual (IFIM). Select this area of operation when an operator plans operations within the airspace of the Special Contingency Routings defined in the current edition of the U.S. IFIM.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. Yes.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125).

e) Optional Paragraphs. B032, B034, B036*, B039*, B041*, B043*, B044*, B046, B342*, and B343*.

NOTE: B039 is required unless the operator intends to operate at altitudes above or below NAT/MNPS airspace. B342 and B343 require Headquarters approval.

8) Atlantic Ocean—Atlantic Ocean at Flight Levels Above and Below NAT/MNPS Airspace Boundaries. Select this area of operation when an operator plans operations within the airspace of the Atlantic Ocean when the operator is not approved to operate in the exclusionary NAT/MNPS airspace.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. Yes.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), B036*.

e) Optional Paragraphs. B032, B034, B041*, B043*, B044*, B046, B342*, and B343*.

NOTE: B342 and B343 require Headquarters approval.

9) Atlantic Ocean—Atlantic Ocean NAT/MNPS Airspace. Select this area of operation when an operator plans operations within the exclusionary NAT/MNPS airspace.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. Yes.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), B036*, B039*, and B046.

e) Optional Paragraphs. B034, B041, B043*, B044*, B342*, and B343*.

NOTE: B342 and B343 require Headquarters approval.

10) Atlantic Ocean—Atlantic Ocean South of New York and Santa Maria Oceanic FIRs. Select this area of operation when an operator plans operations within the airspace South of NAT/MNPS airspace to the South Polar region (67º S.).

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. Yes.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), B036*.

e) Optional Paragraphs. B034, B041, B043*, B046, B342*, and B343*.

NOTE: B342 and B343 require Headquarters approval.

11) Atlantic Ocean—WATRS: the North Atlantic Ocean West of the Western Boundary of NAT/MNPS Airspace to Include the San Juan CTA/FIR and the Atlantic Portion of the Miami Oceanic CTA. Select this area of operation when an operator plans operations within the airspace as defined.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. Yes.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125).

e) Optional Paragraphs. B032, B034, B036, B043*, B044*, B045*, B046, B054*, B342*, and B343*.

NOTE: B342 and B343 require Headquarters approval.

12) Australia and New Zealand. Select this area of operation when an operator plans operations within the territory or airspace of the geographic area of Australia and New Zealand.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. Yes. (See special notes.)

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), and B450.

e) Optional Paragraphs. B032, B034, B036*, B043*, B044*, B046, B342*, and B343*.

NOTE: For operations between Australia and New Zealand, the operator must select Pacific Ocean—The Central and South Pacific Ocean. The possibility of remote or oceanic operations in this area may require B036; therefore, SAO specialist coordination is required. B342 and B343 require Headquarters approval.

13) Canada—Canadian MNPS Airspace. Select this area of operation when an operator plans operations within the Canadian MNPS airspace as defined in the Canadian Aeronautical Information Publication (AIP).

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. Yes.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), B036*, and B059* (required for part 135).

e) Optional Paragraphs. A353, B032, B034, B040*, B043*, B044*, B046, B055*, B342*, B343*, B344*.

NOTE: Operations north of 78º N. Latitude require selection of the "Polar Areas—North Polar Area—North of 78 degrees North Latitude to the North Pole" area. Operations north of 68º N. latitude may require AMU authorization. A353, B342, B343, and B344 require Headquarters approval.

14) Canada—Excluding Canadian MNPS Airspace. Select this area of operation when an operator plans operations within the territory or airspace of the geographic area defined in the Canadian AIP as the Southern Domestic Airspace.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, 135.

d) Required Paragraphs. B031 and B032 (required for parts 121 and 125).

e) Optional Paragraphs. A353, B032, B034, B036*, B043*, B044*, B046, B342*, and B343*.

NOTE: A353, B342, and B343 require Headquarters approval.

15) Caribbean Sea—Including the Islands/Nations and the Havana FIR. Select this area of operation when an operator plans operations within the territory or airspace of the islands and nations in the Caribbean Sea and the Havana FIR.

a) Headquarters Approval. No. (See special notes.)

b) SAO Specialist Coordination Required. No. (See special notes.)

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031 and B032 (required for parts 121 and 125).

e) Optional Paragraphs. B032, B034, B036*, B043*, B044*, B046, and B054*.

NOTE: AFS-200 coordination is required for operations within the Havana FIR and/or Cuba. Initial Class II navigation (B036 or B054) requests require coordination with a SAO specialist.

16) Caribbean Sea—Including the Islands/Nations, Excluding the Havana FIR. Select this area of operation when an operator plans operations within the territory or airspace of the islands and nations in the Caribbean Sea, excluding approval for operations within the territory or airspace Cuba and the Havana FIR.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. No. (See special notes.)

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031 and B032 (required for parts 121 and 125).

e) Optional Paragraphs. B032, B034, B036*, B043*, B044*, B046, and B054*.

NOTE: Initial Class II navigation (B036 or B054) requests require coordination with a SAO specialist.

17) Central America. Select this area of operation when an operator plans operations within the territory or airspace of the geographic area of Central America.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), and B450.

e) Optional Paragraphs. B032, B034, B043*, B044*, B046, and B343*.

NOTE: B343 requires Headquarters approval.

18) China. Select this area of operation when an operator plans operations within the territory or airspace of the geographic area of the People's Republic of China, Hong Kong, Macau, and Taiwan.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. Yes.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), and B450.

e) Optional Paragraphs. B032, B034, B036*, B043*, B044*, B046, and B343*.

NOTE: RVSM (B046) for the People's Republic of China authorization requires coordination with a SAO specialist. B343 requires Headquarters approval.

19) Europe—and the Mediterranean. Select this area of operation when an operator plans operations within the territory or airspace of the geographic area of Europe and the Mediterranean Sea.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), B036*, and B450.

e) Optional Paragraphs. B034, B043*, B044*, B046, and B343*.

NOTE: B343 requires Headquarters approval.

20) Gulf of Mexico. Select this area of operation when an operator plans operations within the airspace of the Gulf of Mexico.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. No. (See special notes.)

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031 and B032 (required for parts 121 and 125).

e) Optional Paragraphs. B032, B034, B036*, B043*, B044*, B046, B054*, and B343*.

NOTE: B036 or B054 may be required based on operator's complexity. Consult a SAO specialist for initial Class II navigation authorization. B343 requires Headquarters approval.

21) Indian Ocean—Including the Islands/Nations. Select this area of operation when an operator plans operations within the territory or airspace of the islands and nations in the Indian Ocean to 67° S. latitude including the Bay of Bengal and the Arabian Sea.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), B036*, and B450.

e) Optional Paragraphs. B034, B043*, B044*, B046, B342*, and B343*.

NOTE: B342 and B343 require Headquarters approval.

22) Mexico. Select this area of operation when an operator plans operations within the territory or airspace of the geographic area of Mexico.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), and B450.

e) Optional Paragraphs. B032, B034, B043*, B044*, B046, and B343*.

NOTE: B343 requires Headquarters approval.

23) Middle East—Excluding Iraq. Select this area of operation when an operator plans operations within the territory or airspace of the geographic area of the Middle East, except for Iraq.

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), and B450.

e) Optional Paragraphs. B032, B034, B036*, B043*, B044*, B046, and B343*.

NOTE: B036 is required for operations over Afghanistan. B343 requires Headquarters approval.

24) Middle East—Iraq SFAR 77. Select this area of operation when an operator plans operations within the territory or airspace of Iraq. The operator must comply with SFAR 77.

a) Headquarters Approval. Yes, contact AFS-200.

b) SAO Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), and B450.

e) Optional Paragraphs. A321, A530, B032, B034, B036*, B043*, B044*, B046, and B343*.

f) Special Notes: A530 (SFAR 77, paragraph I) and B343 require Headquarters approval.

NOTE: A530 is not required when flight operations over or within the territory of Iraq is authorized in accordance with SFAR 77 paragraph (b) and (d).

25) Pacific Ocean—The North Pacific Ocean. Select this area of operation when an operator plans operations within the airspace north of 40° N. latitude, bound in the west by Japan's Fukuoka FIR (inclusive), bound in the east by the North American coast line to include the Anchorage Artic CTA/FIR, and the NOPAC Air Traffic Services (ATS) routes and the Pacific Organized Track System (PACOTS).

a) Headquarters Approval. No.

b) SAO Specialist Coordination Required. No. (See special notes.)

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), B036*, B038*, and B450.

e) Optional Paragraphs. B032, B034, B043*, B044*, B046, B342*, B343*, and B344*.

NOTE: Initial Class II approval requires consultation with a SAO specialist. B342, B343, and B344 require Headquarters approval.

26) Pacific Ocean—The Central and South Pacific Ocean. Select this area of operation when an operator plans operations within the airspace of the Central and South Pacific Ocean South of 40° N. latitude to 67° S. latitude, excluding the Fukuoka FIR (Japan's FIR).

a) Headquarters Approval. No.

b) Navigation Specialist Coordination Required. No. (See special notes.)

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), B036*, and B037*.

e) Optional Paragraphs. B032, B034, B043*, B044*, B046, B342*, B343*, and B344*.

NOTE: Initial Class II approval requires consultation with a navigation specialist. B342, B343, and B344 require Headquarters approval.

27) Pacific Ocean—The Pacific Ocean Islands/Nations. Select this area of operation when an operator plans operations within the territory or airspace of the islands and nations in the Pacific Ocean.

a) Headquarters Approval. No.

b) Navigation Specialist Coordination Required. No. (See special notes.)

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), and B450.

e) Optional Paragraphs. B032, B034, B043*, B044*, B046, B342*, and B343*.

NOTE: Selection of this area will require either the "Pacific Ocean—The North Pacific Ocean" or the "Pacific Ocean—The Central and South Pacific Ocean" navigational area authorization. The additional navigational area may require coordination with a navigation specialist. State of Hawaii operations are a separate area of authorization. B343 require Headquarters approval.

28) Polar Areas—South Polar Area 67º South Latitude to the South Pole Inclusive. Select this area of operation when an operator plans operations within the airspace of the South Polar area 67º S. latitude to the South Pole.

a) Headquarters Approval. Yes.

b) Navigation Specialist Coordination Required. Yes.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), B036*, B040*, and B450.

e) Optional Paragraphs. B034, B044*, B342*, and B344*.

NOTE: Operators requesting South Polar area approval must give 90-day advanced notification to AFS-200 and the Flight Technologies and Procedures Division, AFS-400. B342 and B344 require Headquarters approval.

29) Polar Areas—North Polar Area North of 78º North Latitude to the North Pole. Select this area of operation when an operator is planning operations within the airspace above 78º N. Latitude to the North Pole.

a) Headquarters Approval. No.

b) Navigation Specialist Coordination Required. Yes.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), B036*, B040*, B055*, and B450.

e) Optional Paragraphs. B032, B034, B039, B043*, B044*, B046, B342*, B343*, and B344*.

NOTE: Approval for operations in the Canadian MNPS may also be required. B342, B343, and B344 require Headquarters approval.

30) Russia, Mongolia, and the Commonwealth of Independent States (CIS) Nations. Select this area of operation when an operator is planning operations within the territory or airspace of the geographic area of the Russia, Mongolia, and the other CIS nations including the ocean areas north of the Russia coast line defined as south of 78° N. latitude bound in the east by the intersection of the Arctic Circle and the International Date Line (approximately 170°/180° meridian), and bound in the west by 30° E. longitude.

a) Headquarters Approval. No.

b) Navigation Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125), and B450.

e) Optional Paragraphs. B032, B034, B036*, B043*, B044*, B342*, B343*, and B344*.

NOTE: B342, B343, and B344 require Headquarters approval.

31) South America. Select this area of operation when planning operations within the territory or airspace of the geographic area of South America.

a) Headquarters Approval. No.

b) Navigation Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for part 121 and 125), and B450.

e) Optional Paragraphs. B032, B034, B036*, B043*, B044*, B046, B342*, and B343*.

NOTE: B342 and B343 require Headquarters approval.

32) USA—The 48 Contiguous United States and the District of Columbia. Select this area of operation when an operator is planning operations within the territory or airspace of the 48 contiguous United States and the District of Columbia.

a) Headquarters Approval. No.

b) Navigation Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031 and B032 (required for parts 121 and 125).

e) Optional Paragraphs. B032, B034, B035, and B046.

33) USA—The State of Alaska. Select this area of operation when an operator is planning operations within the territory or airspace of the State of Alaska.

a) Headquarters Approval. No.

b) Navigation Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031 and B032 (required for parts 121 and 125).

e) Optional Paragraphs. A052, B032, B034, B035, B036, B046, B342, B343, and B344.

NOTE: B342, B343, and B344 require Headquarters approval.

34) USA—The State of Hawaii. Select this area of operation when an operator is planning operations within the territory or airspace of the State of Hawaii.

a) Headquarters Approval. No.

b) Navigation Specialist Coordination Required. No.

c) Applicable 14 CFR Parts. 91K, 121, 121/135, 125, 125M, and 135.

d) Required Paragraphs. B031, B032 (required for parts 121 and 125).

e) Optional Paragraphs. B032, B034, B035, B036*, and B046.

D. ETOPS Areas of Operation/B050 Interface. Certain geographic areas require ETOPS authority based on the availability of adequate airports. Most ETOPS authorizations require validation testing. For ETOPS validation requirements refer to Volume 3, Chapter 29, Section 8, Validation Test Requirements, and Volume 4, Chapter 6, Section 2, Evaluate/Inspect Airworthiness Issue for Part 121 Extended-Range Operations With Two-Engine Aircraft. Table 3-15A below lists the ETOPS areas of operations and correlates them to the authorized areas in B050. Use the table below to determine ETOPS validation requirements for a specific ETOPS area of operation with respect to an OpSpec B050 authorized area of en route operations.

Table 3-15B. ETOPS Validation Areas and Corresponding B050 Authorized Areas

ETOPS Area of Operations	B050 Authorized Area(s)	Validation Flights Required	Comments
North Polar	Polar Areas - North Polar Area- North of 78 degrees North Latitude to the North Pole	Yes	None
South Polar	Polar Areas - South Polar Area-67 degrees South Latitude to the South Pole inclusive	Yes	None
North Atlantic	Atlantic Ocean - The North Atlantic Ocean specified as “Special Contingency Routings” in the current edition of the U.S. IFIM Atlantic Ocean - Atlantic Ocean at flight levels above and below NAT/MNPS airspace boundaries Atlantic Ocean - Atlantic Ocean NAT/MNPS airspace	Yes	None
WATRS	Atlantic Ocean - WATRS - The North Atlantic Ocean west of the western boundary of NAT/MNPS airspace to include the San Juan CTA/FIR and the Atlantic portion of the Miami Oceanic CTA	Yes	Required for operators whose ETOPS approval is limited to 75-minute ETOPS authority.
South Atlantic	Atlantic Ocean - Atlantic Ocean South of New York and Santa Maria Oceanic FIRs	Yes	None
North Pacific	Pacific Ocean - The North Pacific Ocean - North of 40º North latitude bound in the east by the North American coast line to include the Anchorage Arctic CTA/FIR, and the NOPAC Air Traffic Services (ATS) routes and the Pacific Organized Track System (PACOTS)	Yes	None
Central and South Pacific	Pacific Ocean - The Central and South Pacific Ocean excluding the Fukuoka FIR (Japan’s FIR)	Yes	None
Indian Ocean	Indian Ocean - Including the islands/nations	Yes	None
Russia, Far East	Russia, Mongolia, and the CIS Nations	Yes	None
South China Sea	Asia - Excluding North Korea	Yes	None

ETOPS Area of Operations	B050 Authorized Area(s)	Validation Flights Required	Comments
Africa	Africa - Excluding Ethiopia and Somalia	May be required	Based upon routing and airspace requirements. Consult AFS-200.
Alaska	USA - The State of Alaska	May be required	Based upon routing and airspace requirements. Consult AFS-200.
Australia	Australia and New Zealand	May be required	Based upon routing and airspace requirements. Consult AFS-200.
Northern Canada	Canada - Excluding Canadian MNPS airspace Canada - Canadian MNPS airspace	May be required	Based upon routing and airspace requirements. Consult AFS-200.
South America	South America	May be required	Based upon routing and airspace requirements. Consult AFS-200.

E. Adding Areas with Limited FAA Oversight. When a certificate holder submits a request to add a location to OpSpec B050, where limited FAA surveillance and oversight will be possible, principal inspectors (PI) evaluate the systems the certificate holder uses to produce and manage aviation products and services that ensure safety and regulatory compliance before adding the new location. This evaluation should include a comparison of those systems to the basic characteristics of all effective safety systems. These characteristics are embodied in the following attributes:

- Well-defined and well-documented procedures;
- Established risk controls over key procedural steps;
- Process measures to permit effective management;
- Well-defined interfaces; and
- Clear responsibility and authority.

1) Operational control systems vary with the kinds of operations the operator is authorized to conduct; the complexity of the operations; the means of communication; and the people who are involved in preparing for and conducting flights under the operator's system. These functions form the basis for an operational control system that includes the functions of aircraft release, flight locating, and flight following, as applicable. Those functions alone will not satisfy the overall goal of establishing and maintaining an operational control system. Pis must evaluate the operator's operational control system to ensure that the operator complies with the applicable U.S. and foreign regulations. The system must be effective and provide for an adequate level of safety in the actual operations.

2) Each PI will ensure that it is possible to complete work program items at the local or remotely located base of operations, or use the steps (refer to FAA Order 1800.56, National Flight Standards Work Program Guidelines, current edition, Appendix A) to deviate from the work program. Deviation may include coordination with the operator to relocate aircraft to a suitable location for specific oversight and inspections if operations are authorized and conducted in a location that is not safe for the inspector to travel. This may also include a provision for the operator to establish an adequate level of safety oversight to ensure continued compliance with the regulations and company procedures, etc. If the certificate-holding district office (CHDO) cannot perform onsite surveillance or establish a method to determine an adequate level of safety oversight, then the CHDO should coordinate with its regional office and the Air Transportation Division, AFS-200, to explore additional options.

NOTE: Only the certificate holder is responsible to comply with 14 CFR and establish and maintain processes, procedures, and management oversight adequate to ensure regulatory compliance and ultimately safe operations.

3) Certain conditions may preclude the CHDO from exercising an adequate level of oversight and will require the CHDO, through coordination with the regional office, to develop special conditions to be included in the OpSpec paragraph. Any nonstandard OpSpec language the CHDO proposes must be coordinated through the regional office and approved by AFS-200 before issuance. Following the special conditions, a statement will be included that directs that these special conditions must continue to be met for the authorization to remain in effect. These special conditions would then be clearly communicated to the operator before signing the OpSpec paragraph.

F. Operations in Support of the Military or in Hostile Areas. In addition to the requirements cited for operations conducted in areas of limited FAA oversight, the operator must establish the following procedures before conducting operations outside the United States in support of military operations, or in hostile areas where onsite FAA oversight cannot be accomplished.

1) For operations conducted outside the United States in support of the U.S. military or under a U.S. Government contract, the contracting Federal agency must approve the operator’s threat mitigation plan.

2) The operator must ensure all contracts with U.S. Government agencies contain provisions that require the contracting agency to report on an annual basis, or as sooner identified, an annual safety report to the operator and CHDO to ensure the operator immediately corrects all safety issues.

3) For operations conducted in hostile areas or in support of military operations, the operator must have an operational risk mitigation program that requires the pilot to contact designated part 119 management personnel for concurrence when the perceived flight risk reaches a specified level, as designated in the operator’s risk management program.

4) The operator must establish a flight following program that coordinates the initiation, diversion, and/or termination of all air carrier flights. The operator must train flight following personnel to provide current weather information to the pilot, as well as provide timely information to flightcrews before and during a flight. Part 135 flight following personnel do not need to be certificated dispatchers, but must be trained by the operator to read and disseminate aviation weather reports, applicable aircraft performance, maintenance deferrals, and deferral procedures to coordinate information between the flightcrew and part 119 management personnel. Flight followers must be knowledgeable of aviation communication phraseology and communication procedures to allow timely communication to flightcrews.

5) Conduct the flight following program from a location within the United States.

6) All part 119 management personnel, pilots, and flight following personnel must be trained on the operator's threat mitigation plan and operational risk management program.

OPSPEC B051, PART 121 VISUAL FLIGHT RULES LIMITATIONS AND PROVISIONS. TBD.

OPSPEC B052. TBD.

OPSPEC B053. TBD.

OPSPEC/MSPEC/LOA B054/MB054, CLASS II NAVIGATION USING SINGLE LONG-RANGE NAVIGATION SYSTEM (S-LRNS).

A. Authorization. OpSpec/Mspec/LOA B054/MB054 provides authorization for Class II navigation using a single long-range navigation system (S-LRNS) and, where applicable, OpSpec/Mspec/LOA B054 provides S-LRNS authorization for Required Navigation Performance 10 (RNP 10) for operation in a limited number of designated areas of operation (e.g., Gulf of Mexico). Under this authorization, operators/program managers/LODA holders (operators) are authorized to conduct Class II navigation using S-LRNS in accordance with the limitations and provisions of OpSpec/Mspec/LOA MB054 and, as applicable, 14 CFR part 91, § 91.511; 14 CFR part 121, § 121.351; 14 CFR part 125, § 125.203; and 14 CFR part 135, § 135.165.

B. Background: S-LRNS and S-LRNS RNP 10 Operations. Sections 91.511, 121.351, 125.203, and 135.165 (which regulate Class II navigation using S-LRNS in the West Atlantic, Gulf of Mexico, and Caribbean Sea) were published in 1996. The first area in which S-LRNS-equipped airplanes will be eligible for RNP 10 authorization is the Gulf of Mexico. RNP 10 will be applied in the Gulf of Mexico oceanic control areas (CTA) (i.e., Houston oceanic CTA/flight information region (FIR), Gulf of Mexico portion of Miami oceanic CTA/FIR, Monterrey CTA, and the Merida High CTA within the Mexico FIR/upper control area (UTA)) in order to introduce 50-nautical mile (NM) lateral separation between airplanes authorized RNP 10 or Required Navigation Performance 4 (RNP 4). Beyond the Gulf of Mexico program, the FAA anticipates that S-LRNS/RNP 10 authorization will only be allowed in a limited number of designated areas of operation.

C. General Guidance on S-LRNS Operations. Volume 4, Chapter 1, Section 5 provides guidance on S-LRNS operations in paragraph 4-110. This paragraph discusses S-LRNS operations in the only areas in which S-LRNS operations have been authorized: the West Atlantic, the Gulf of Mexico, the Caribbean Sea, and the North Atlantic (NAT) special contingency routes.

1) Inspectors should continue to utilize OpSpec/Mspec B054/MB054 Table 1, S-LRNS Airplanes and Equipment, to authorize S-LRNS for operations in the Gulf of Mexico, West Atlantic, and Caribbean Sea. The applicability of Table 2, S-LRNS Airplane and Equipment Authorized RNP 10, is addressed in subparagraph F.

2) Inspectors should continue to utilize OpSpec/Mspec/LOA B039/MB039 for authorization of S-LRNS operation on NAT special contingency routes. The guidance on issuing OpSpec/Mspec/LOA B039 for NAT S-LRNS operations is available in paragraph 3-816 and Volume 4, Chapter 1, Section 5, paragraphs 4-98 and 4-99.

D. General Guidance for Evaluation of Qualification for RNP 10. Use the following sources to evaluate each operator's qualification for RNP 10 authorization:

1) Volume 4, Chapter 1, Section 5, paragraph 4-108 also provides guidance on the evaluation of an applicant's S-LRNS RNP 10 capabilities. This paragraph provides detailed guidance on assessing an applicant's qualification for RNP 10 along with references to paragraphs in the current edition of FAA Order 8400.12, Required Navigation Performance 10 (RNP 10) Operational Authorization.

2) FAA Order 8400.12 is the source document for determining the airplane/long-range navigation system (LRNS) combination eligibility for RNP 10 and for assessing an applicant's readiness for RNP 10 authorization.

E. Validation. The following paragraphs provide guidance on validation tests and validation flights (see Volume 3, Chapter 29). They are intended to provide broad guidance for establishing requirements for validation tests and for determining whether or not a validation flight is required.

1) Contact with a Next Generation (NextGen) Oceanic Specialist. The inspector should consider each application on its own merit and, in accordance with Volume 3, Chapter 29, must consult with a NextGen oceanic specialist. The oceanic specialists can be contacted through the regional NextGen Branches (AXX-220).

2) Operators with Class II Navigation Experience with the Proposed LRNS. For operators with previous Class II navigation experience with the same navigation equipment as that being proposed for RNP 10 approval, evaluation of the applicant's programs and documents is required. Tabletop exercises and demonstrations on a static airplane may also be required for evaluation purposes. A validation flight should not normally be required.

3) Operators Without Class II Navigation Experience with the Proposed LRNS. For operators with previous Class II navigation experience navigating with an LRNS other than that being proposed for RNP 10 approval, evaluation of the applicant's programs and documents is required. A validation flight may not be required if the inspector determines that the operator's policies, procedures, and programs concerning the proposed LRNS can be adequately evaluated through one or a combination of the following:

- Document review;
- Tabletop exercise;
- Demonstration on a static aircraft; and/or
- Any other means found acceptable.

4) Operator Without Class II Navigation Experience. For operators with no previous Class II navigation experience proposing to operate where RNP 10 is applied, evaluation of the operator's programs and documents is required. A validation flight is required and must be conducted in Class II airspace. It should be a non-revenue flight with the exception that cargo may be carried.

5) Conditions for Validation Flights.

a) At least one flight should be observed by an FAA aviation safety inspector (ASI).

b) A demonstration of any required dispatch procedures, if applicable, must be conducted for routes or areas where RNP 10 is required.

c) The flight(s) should be of adequate duration for the pilots to demonstrate knowledge of dispatch requirements (if applicable), capability to navigate with the system, and capability to perform the normal and non-normal procedures.

F. OpSpec/Mspec B054/MB054 Tables: Table Entries and Selection of Limitations. OpSpec/Mspec/LOA B054/MB054 contains tables in which information is entered on the airplane make, model, and series (M/M/S); the S-LRNS make and model; and long-range communication equipment.

1) Table 1. Inspectors should use Table 1 for S-LRNS operators to provide the airplane's M/M/S and the manufacturer and model of the S-LRNS system.

2) Table 2. Inspectors should also complete Table 2 for operators seeking S-LRNS RNP 10 authorization; otherwise, Table 2 will remain blank. When utilized, Table 2 contains limitations that must be selected from drop-down menus for the following:

- "RNP 10 Time Limit" (applicable to airplanes where inertial navigation system (INS) or Inertial Reference Units (IRU) provides the only means of long-range navigation (LRN)).
- "Area of Operations Where Permitted."

G. Part 91 LOA Class II Operations in Airspace Where RNP 10 is Applied Using an S-LRNS. Inspectors should complete all tables for operators seeking S-LRNS RNP 10 authorization.

1) Table 1. Enter the following information:

- Airplane serial number.
- Registration number.
- Airplane M/M/S, and the manufacturer and model of S-LRNS system.
- Communications equipment manufacturer and model.
- RNP 10 time limit (applicable to airplanes where INS or IRU provides the only means of LRN).
- Area of operations where permitted.

2) Paragraph 3, Crew Training. Inspector will insert the name of the flightcrew training provider.

3) Table 2, Responsible Person. Enter the following information:

- Name.
- Email address.
- Telephone number.

H. Program Tracking and Reporting Subsystem (PTRS) Activity Codes. PTRS entries will be made. The operations activity code number will be 1442; the avionics activity code will be 5434; and the "National Use" field entry shall be "RNP 10" followed by three spaces. (To facilitate the PTRS search function, please ensure that a space is inserted between "RNP" and "10.")

I. Contacts for Questions. Direct your questions or comments concerning this guidance to the Performance Based Flight Systems Branch (AFS-470) at 202-385-4623.

OPSPEC/MSPEC B055, NORTH POLAR OPERATIONS.

A. OpSpec/Mspec B055 Provides For North Polar Flight Operations Authorization. Operators are required to gain specific approval to conduct north polar operations (in addition to FAA approval for flight in the area of magnetic unreliability (AMU), OpSpec/Mspec B040). The north polar area of operations is defined as that area that lies north of latitude N 78°00' (see OpSpec/Mspec A002). OpSpec/Mspec B050 must show the specific routes approved for these north polar operations. Mspec MB055 is also available for 14 CFR part 91K authorization. The fractional ownership program manager must meet the same requirements as the 14 CFR part 121 certificate holder for the North Polar authorization.

B. Fuel-Freeze Strategy and Monitoring Requirements for North Polar Operations. The operator may wish to develop a fuel freeze analysis program in lieu of using the standard minimum fuel-freeze temperatures for specific types of fuel used. In such cases, the operator's fuel-freeze analysis and monitoring program for the airplane fuel load must be submitted and

acceptable to the FAA. The operator should have procedures established that require coordination between maintenance, dispatch, and assigned flightcrew of the determined fuel freeze temperature of the actual fuel load on board the airplane.

C. Communication Capability. In accordance with part 121, § 121.99 (Communications Facilities), the operator must have effective communications capability with dispatch and with air traffic control (ATC) for all portions of the flight route. The operator must show the FAA the communications medium(s) that it intends to use to fulfill these requirements in the north polar north area.

1) The communications medium used must meet FAA regulatory requirements and fulfill policy/procedures established by each Air Traffic Service (AAT) unit providing control on the route of flight. Anchorage Center publishes this information in the U.S. Government Flight Information Publication Supplement for Alaska. Other countries publish AAT policies and procedures in their State Aeronautical Information Publications.

2) High Frequency (HF) Voice has been considered the primary communications medium in the Polar North Area; however, other mediums may be used in accordance with the applicable policy. For example, although HF Voice remains primary for communications with Anchorage Center, in areas where there is satellite coverage, satellite communication (SATCOM) voice may be used as a back-up to communicate with ARINC Radio and in non-routine situations to establish direct pilot-controller voice communications.

3) In areas of satellite coverage, pilot-controller datalink communications (CPDLC) may be used for ATC communications provided the AAT unit has an approved capability. In addition, provided the capability is approved, HF data link may also be used to fulfill communications requirements with AAT units having the capability and with airline dispatch.

4) It is recognized that SATCOM may not be available for short periods during flight over the North Pole, particularly when operating on designated polar routes 1 and 2 (see Volume 4, Chapter 1, Section 5). Communication capability with HF radios may also be affected during periods of solar flare activity. The operator must take into consideration for each dispatched polar flight, the predicted solar flare activity and its effect on communication capability.

D. Minimum Equipment Lists (MEL). The operator will amend their MEL for the items that must be operational for north polar operations. For Extended Operations (ETOPS) flights, all MEL restrictions for 180-minute operations will be applicable. Prior to receiving FAA authority to conduct north polar operations, the operator will be required to amend its MEL for the following systems/equipment to indicate that they are required for north polar operations dispatch:

- Fuel quantity indicator system (FQIS) (to include fuel tank temperature indicating system),
- Auxiliary power unit (APU) - for two-engine airplanes (including electrical and pneumatic supply to its designed capability),
- Autothrottle system,

- Autopilot, and
- Communication system(s) relied on by the flightcrew to satisfy the requirement for effective communication capability.

E. Training. The following requirements must be addressed in the approved training program (part 125 certificate holders are not required to have an approved training program):

1) QFE/QNH (airport altitude settings) (See Advisory Circular (AC) 91-70, Oceanic Operations, current edition) and meter/feet issues are required for flightcrew and aircraft dispatcher training. See the current edition of AC 120-29, Criteria for Approval of Category I and Category II Weather Minima for Approach, for information in regards to cold temperature effects on altimeters.

2) Training requirements for fuel freeze strategy and monitoring requirements. Maintenance, dispatch, and flightcrew training (special curriculum segments).

3) General route-specific training on weather patterns and aircraft system limitations.

4) For diversion decision-making, the roles and responsibilities must be addressed for providing airplane systems capability information to dispatch and flightcrew in order to aid the pilot in command (PIC).

5) Flightcrew training in the use of the cold weather antiexposure suit.

F. Long-Range Flightcrew Requirements. The following long-range flightcrew issues need to be addressed by the operator:

1) Rest plan submitted to the principal operations inspector (POI) for review and approval.

2) Multicrew flight proficiency issue needs to be addressed in the training program.

3) The progression of the delegated PIC authority as designated by the operator. This does not mean that there can be more than one PIC on a flight who is responsible for the safe operation of the flight under §§ 121.535, 121.537, and International Civil Aviation Organization (ICAO) Annex 6, Part 1, Chapter 1, Definitions, and Chapter 4, Flight Operations, section 4.5.1.

G. Dispatch and Crewmember Considerations During Solar Flare Activity. The operator must be aware of the content of the current edition of AC 120-61, In-Flight Radiation Exposure.

H. Additional Required Equipment for North Polar Operations.

1) Except for all cargo operations, expanded medical kit to include automated external defibrillators (AED) (See the current edition of AC 91.21-1, Use of Portable Electronic Devices Aboard Aircraft).

2) A minimum of two cold weather anti-exposure suits will be required to be on board the aircraft so that outside coordination at a diversion airport with extreme climatic conditions can be accomplished safely.

I. En Route Polar Diversion Alternate Airport Requirements. Operators are expected to give definition to a sufficient set of alternate airports for polar diversions, such that one or more can be reasonably expected to be available in varying weather conditions (AC 120-42, Extended Operations (ETOPS and Polar Operations), current edition, provides additional guidance for two-engine airplanes). The flight must be able to make a safe landing, and the airplane maneuvered off the runway at the selected diversion airport. In the event of a disabled airplane following landing, the capability to move the disabled airplane must exist so as not to block the operation of any recovery airplane. In addition, those airports designated for use must be capable of protecting the safety of all personnel by being able to:

1) Offload the passengers and flightcrew in a safe manner during possible adverse weather conditions,

2) Provide for the physiological needs of the passengers and flightcrew for the duration until safe evacuation, and

3) Be able to safely extract passengers and flightcrew as soon as possible (execution and completion of the recovery is expected within 12 to 48 hours following diversion).

J. Recovery Plan for Passengers at Polar Diversion Alternate Airports. All operators conducting polar operations must submit to the FAA a recovery plan that will be initiated in the event of an unplanned diversion. The recovery plan should address the care and safety of passengers and flightcrew at the approved emergency airport, and include the plan of operation to extract the passengers and flightcrew from that airport.

1) The operator should be able to demonstrate its ability to launch and conduct the recovery plan on its initial application for north polar route approval.

2) The operator must maintain the accuracy and completeness of its recovery plan and diversion airport database at least annually.

K. Validation Requirements for Area Approval for Polar Operations. The operator will be required to conduct an FAA-observed validation flight in order to receive authorization to conduct polar operations. As part of the validation, the operator will be required to exercise its reaction and recovery plan in the event of a diversion to one of its designated en route alternate airports. Adequate and timely coordination must be made so that the FAA coordination necessary to have an FAA inspector in place at the selected emergency airport can be made.

1) The aviation safety inspector (ASI) will witness the effectiveness and adequacy of:

- Communications,
- Coordination,

- Facilities,
- Accuracy of Notices to Airmen (NOTAM) and weather information, and
- Operability of ground equipment during the simulated diversion.

2) The exercise of the operator's reaction and recovery plan may be completed prior to the validation flight.

3) AFS–200 will give favorable consideration to a request by the operator, through the POI, to conduct the validation flight in a passenger revenue status only if the operator's reaction and recovery plan has been previously demonstrated to the satisfaction of FAA.

4) If the operator elects to demonstrate its reaction and recovery plan as part of and during the validation flight, the flight cannot be conducted in a passenger revenue status. The carriage of cargo revenue is permissible in this case, and is encouraged, for airplane weight and balance purpose.

L. Program Tracking and Reporting Subsystem (PTRS) Requirements. Upon completion, make appropriate record entries as follows:

1) Air Transportation Oversight System (ATOS) Part 121 Tracking. Use an element-based Dynamic Observation Report (DOR). Enter OPSPB055 in the Local/Regional/National Field.

2) Title 14 CFR Parts 125 and 135 Tracking. Use codes for PTRS Input, as follows: code 1326 (Operation Specifications Original) or 1327 (OpSpecs Revision) and, if required, 1314 (Observe Route Proving Flights).

OPSPEC B057, NATIONAL PARKS AIR TOUR MANAGEMENT OPERATIONS UNDER TITLE 14 CFR PART 136.

A. Purpose. OpSpec B057 gives Interim Operating Authority to permit certificate holders and 14 CFR part 91 air tour operators to continue to conduct air tour operations over the identified national park units and abutting tribal lands listed in its Table 1, for up to 180 days after the finalized air tour management plan (ATMP). At the end of the 180 days, the OpSpecs will need to be re-issued, if there are any limitations set forth in the final ATMP.

B. Commercial Air Tour Operations. These operations are conducted as commercial air tour operations in accordance with part 136, the applicable operating part, and the limitations and provisions of OpSpec B057.

OPSPEC/MSPEC B059, CANADIAN MNPS.

A. Purpose. For the 14 CFR part 135 certificate holders or 14 CFR part 91K program managers, the Canadian minimum navigation performance specification (MNPS) airspace approvals may be granted by issuance of OpSpec/Mspec B059 only and adding that area of en route operations to OpSpec/Mspec B050. OpSpec/Mspec B059 must be referenced appropriately in OpSpec/Mspec B050. If North Atlantic Minimum Navigation Performance

Specifications (NAT/MNPS) authorization is applicable, OpSpec/Mspec B039 would also be issued.

B. Further Guidance. See Volume 4, Chapter 1, Section 5, Special Navigation Areas of Operation, for details to authorize operations in Canadian MNPS.

C. Title 14 CFR Parts 121 and 135. For the part 121 and 135 certificate holders, Canadian MNPS airspace approvals are granted by issuance of OpSpec B039 and adding that area of en route operations to OpSpec B050.

OPSPEC B342 EXTENDED OPERATIONS (ETOPS) WITH TWO-ENGINE AIRPLANES, UNDER PART 121 OR 135. The FAA issues OpSpec B342 to operators who are approved to conduct extended operations (ETOPS) with two-engine airplanes in accordance with the limitations and provisions of this OpSpec and 14 CFR part 121, § 121.161, or 14 CFR part 135, § 135.364.

A. General Guidance. Evaluate and approve all ETOPS in accordance with Advisory Circular (AC) 120-42, Extended Operations (ETOPS) and Polar Operations, current edition, or AC 135-42, Extended Operations (ETOPS) and Operations in the North Polar Area, current edition, and any additional criteria Order 8900.1 specifies. At a minimum, operators must meet the following conditions:

1) The proposed airplane/engine combination must be type-design approved for the proposed extended-range operation.

2) The ETOPS maintenance and the flight operation programs must meet or exceed AC 120-42, current edition or AC 135-42, current edition, criteria.

3) Higher Headquarters (region and Air Transportation Division, AFS–200) must concur with the proposed operation.

4) Successful completion of validation flights.

B. Validation Flights. In order to be authorized for ETOPS in accordance with B342, operators must satisfactorily complete validation flights as part of the ETOPS approval process. Refer to Volume 3, Chapter 29, Proving and Validation Tests, and Volume 4, Chapter 6, Airplane Authorizations and Limitations.

1) Before conducting the validation flights, the certificate-holding district office (CHDO) will request authorization from AFS–200 via its regional office, to issue the appropriate temporary OpSpec.

2) The CHDO’s request should include any specific recommendations the principal maintenance inspector (PMI), principal avionics inspector (PAI), or principal operations inspector (POI) made. Following review and concurrence by AFS–200, schedule the validation flights in accordance with any additional guidance or recommendations specified in AFS–200’s concurrence.

3) Once AFS–200 authorizes the validation test, the POI will select paragraph a in the B342 template that limits operations to only ETOPS validation flights, and issue the temporary OpSpec.

4) Following the successful completion of the validation flights, the CHDO will send a memo through its regional office and AFS–200 to the Director of Flight Standards (AFS–1), advising that the certificate holder has successfully validated their ETOPS processes and recommending that AFS–1 authorize the CHDO to issue the appropriate OpSpecs for ETOPS.

C. Limitations and Provisions. This subparagraph defines the limitations and provisions under which the operator may conduct ETOPS.

1) Use OpSpec B342 Table 1 to document the airplanes authorized to conduct these operations. The table lists the aircraft by make/model/series (M/M/S), registration number, aircraft engine, and maximum diversion times. In the case where all M/M/S have the same maximum diversion time, the term All can substitute for the actual registration numbers. Use the following figure as an example.

Figure 3-117. Example Completed Table 1, Authorized ETOPS Airplane/Engine

AIRPLANE TYPE (MAKE/MODEL/ SERIES)	REGISTRATION NUMBERS	AIRCRAFT ENGINE	MAXIMUM DIVERSION TIME IN MINUTES
Boeing 737-400	All	CFM International CFM56-3	120
Boeing 757-200	All	Rolls Royce RB211-535E4	180
Boeing 777-200	N602PA	General Electric GE90-110B	207
Airbus A330	N630PA	Pratt And Whitney PW4000-100	180

2) Use OpSpec B342 Table 2 to document the approved ETOPS en route alternate airports. These airports are in addition to a flight's departure, destination, and destination alternate airports.

NOTE: After the POI grants initial approval of ETOPS, subsequent changes to Table 2, such as the addition of a new en route alternate, do not have to be forwarded for approval to AFS–200 via the regional office. This only applies to Table 2. Coordinate all other changes to this OpSpec through the regional office to AFS–200.

Figure 3-118. Example Completed Table 2, Authorized ETOPS Alternate Airports

AIRPORT (IDENT)	SPECIAL CONDITIONS/LIMITATIONS
KEFLAVIK (BIKF)	None
SONDERSTROM (BIRK)	None
GANDER (CYQX)	None
LAJES (LPLA)	None
SHANNON (EINN)	None
REYKJAVIK (BIRK)	B737 ONLY

D. Part 121 ETOPS With Diversion Times of 75 Minutes or Less. Evaluate and approve on a case-by-case basis part 121 ETOPS with maximum diversions times of 75 minutes or less. Although type-design approval is not necessary for ETOPS of 75 minutes or less, review the airplane's design to identify any special equipment or requirements necessary to safely conduct these operations. Except for ETOPS in the Western Atlantic and Caribbean Sea, ETOPS maintenance and flight operations programs for these operations must meet the criteria in AC 120-42, current edition. The FAA, on a case-by-case basis, approves operations in the Western Atlantic Ocean and Caribbean Sea considering the reliability of the propulsion system, the character of the terrain, kind of operation, performance of the airplane to be used, capabilities of the alternate airports en route, and the special provisions for this area in B342. All ETOPS with diversion times of 75 minutes or less require the respective regional office and AFS–200 review and concurrence before issuing OpSpecs approval for these operations.

E. Authorizations. As appropriate, the FAA can use B342 to issue a general ETOPS authorization, a special authorization for the Western Atlantic and Caribbean Sea, or both, only under part 121.

F. B342 With Two-Engine Airplane Under Part 121 Only. Special provision for Western Atlantic Ocean and Caribbean Sea is a specific authorization and the FAA issues it if the operator has authorization to conduct any special ETOPS in the Western Atlantic Ocean and Caribbean Sea using a maximum diversion time of 75 minutes or less. Use OpSpec B342 Table 3 to document the airplanes approved for these operations. The table lists the airplane M/M/S and any special equipment or limitations required to ensure the airplane is airworthy for these operations. If appropriate, use the special equipment/limitations columns to limit the operation to a specific aircraft series. Refer to the figure below.

Figure 3-119. Example Completed Table 3, Special Provision for Western Atlantic and Caribbean Sea ETOPS

AIRPLANE TYPE (MAKE/MODEL/SERIES)	SPECIAL EQUIPMENT/LIMITATIONS
Airbus 300	Series A300B4203 Only
Boeing 737	APU Generator Operating
Boeing 767	None
Doug DC9	MAX TOGW 138,000

G. Additional OpSpecs. In addition to the ETOPS OpSpecs, operations may require additional OpSpecs, such as: B036 for Class II navigation; B037 if the operation involves Central East Pacific airspace; B038 if the operation involves North Pacific airspace; B039 if the operation involves North Atlantic (NAT)/Minimum Navigation Performance Specification airspace; B040 if the operation involves areas of magnetic unreliability. If the operation involves transatlantic flight in the North Atlantic, the FAA can authorize these operations under B041 if the capabilities of the aircraft permit NAT/OPS under the 60-minute rule.

NOTE: This is not a complete list of additional OpSpecs. It has been included in this section to provide examples only.

H. Experienced ETOPS Operator. Once a certificate holder has authorization to conduct ETOPS, procedures and systems should be in place to support any additional ETOPS authority. The application package for an experienced ETOPS operator requesting a new aircraft/engine combination, a change to the existing authorization (e.g., 120 minutes to 180 minutes), or a new geographic area of operation, may not be as complex as a new entrant operator. The CHDO will make this determination, along with the concurrence of the regional office and Headquarters.

NOTE: Additional information is available in AC 120-42, current edition, and AC 135-42, current edition, depending on the type of operation requested. Additional guidance regarding the approval and continued assessment of the ETOPS process can be found in Volume 4, Chapter 6, Airplane Authorizations and Limitations.

OPSPEC B344 EXTENDED OPERATIONS IN PASSENGER-CARRYING AIRPLANES WITH MORE THAN TWO ENGINES, UNDER PARTS 121 OR 135. The FAA issues OpSpec B344 to operators who are approved to conduct extended operations (ETOPS) with airplanes with more than two engines in accordance with the limitations and provisions of this OpSpec, and 14 CFR part 121, § 121.161, or 14 CFR part 135, § 135.364.

A. General Guidance. Evaluate and approve all ETOPS in accordance with Advisory Circular (AC) 120-42, Extended Operations (ETOPS) and Polar Operations, current edition, or AC 135-42, Extended Operations (ETOPS) and Operations in the North Polar Area, current edition, and any additional criteria Order 8900.1 specifies. As a minimum operators must meet the following conditions:

1) The proposed airplane/engine combination must be type-design approved for the extended range operation proposed for aircraft manufactured after February 17, 2015 for part 121, or February 15, 2005 for part 135.

2) The ETOPS maintenance and the flight operation programs must meet or exceed the criteria in AC 120-42, current edition, or AC 135-42, current edition.

3) Higher Headquarters (region and Air Transportation Division, AFS–200) must concur with the proposed operation.

4) Successful completion of validation flights.

B. Validation Flights. In order to issue OpSpec B344, operators must accomplish validation flights (as described in Volume 3, Chapter 29, Proving and Validation Tests, and Volume 4, Chapter 6, Airplane Authorizations and Limitations) as part of the ETOPS approval process.

1) Before conducting the validation flights, the certificate-holding district office (CHDO) will request authorization from AFS–200 via its regional office to issue the appropriate temporary OpSpec. Once AFS–200 authorizes the validation test, the principal operations inspector (POI) will select paragraph a in the B344 template that limits operations only to ETOPS validation flights, and issue the temporary OpSpec.

2) The CHDO's request should include any specific recommendations the principal maintenance inspector (PMI), principal avionics inspector (PAI), or POI, made. Following review and concurrence by AFS–200, schedule the validation flights in accordance with any additional guidance or recommendations specified in AFS–200's concurrence.

3) Following the successful completion of the validation flights, the CHDO will send a memo through their regional office and AFS–200 to the Director of Flight Standards (AFS–1), advising that the certificate holder has successfully validated their ETOPS processes, and recommending that AFS–1 authorize the CHDO to issue the appropriate OpSpecs for ETOPS.

C. Limitations and Provisions. This subparagraph defines the limitations and provisions under which the operator may conduct ETOPS.

1) Use OpSpec B342 Table 1 to document the airplanes authorized to conduct these operations. This table lists aircraft by make/model/series (M/M/S), registration number, aircraft engine, and maximum diversion times. In the case where all M/M/S have the same maximum diversion time, the term All may substitute for the actual registration numbers. Use Figure 3-117 in OpSpec B342 as an example.

2) Use OpSpec B344 Table 2 to document the approved ETOPS en route alternate airports. These airports are in addition to a flight's departure, destination, and destination alternate airports.

NOTE: After initial approval of ETOPS has been granted, subsequent changes to Table 2, such as the addition of a new en route alternate, do not have to be forwarded for approval to AFS–200 via the regional office. This only applies to Table 2. Coordinate all other changes to this OpSpec through the regional office to AFS–200.

Figure 3-120. Example Completed Table 2, Authorized ETOPS Alternate Airports

AIRPORT (IDENT)	SPECIAL CONDITIONS/LIMITATIONS
HONOLULU (PHNL)	None
MIDWAY ATOL (PMDY)	None
TAHITI (NTAA)	None

D. Additional OpSpecs. In addition to the ETOPS OpSpecs, operations may require additional OpSpecs, such as: B036 for Class II navigation; B037 if the operation involves Central East Pacific airspace; B038 if the operation involves North Pacific airspace; B039 if the operation involves North Atlantic (NAT)/Minimum Navigation Performance Specification airspace; B040 if the operation involves areas of magnetic unreliability. If the operation involves transatlantic flight in the North Atlantic, the FAA can authorize these operations under B041 if the capabilities of the aircraft permit NAT/OPS under the 60-minute rule.

NOTE: This is not a complete list of additional OpSpecs. It has been included in this section to provide examples only.

E. Experienced ETOPS Operator. Once a certificate holder has authorization to conduct ETOPS, procedures and systems should be in place to support any additional ETOPS authority. The application package for an experienced ETOPS operator requesting a new aircraft/engine combination, a change to the existing authorization (120 minutes to 180 minutes), or a new geographic area of operation, may not be as complex as a new entrant operator. The CHDO will make this determination, along with the concurrence of the regional office and Headquarters.

NOTE: Additional information is available in AC 120-42, current edition, and AC 135-42, current edition, depending on the type of operation requested. Volume 4, Chapter 6, Airplane Authorizations and Limitations, contains additional guidance regarding the approval and continued assessment of the ETOPS process.

OPSPEC/MSPEC/LOA B450, SENSITIVE INTERNATIONAL AREAS.

A. Background. The FAA needs to communicate vital and time sensitive safety information regarding overflights and/or flights into foreign areas where potentially hostile situations exist. OpSpec/Mspec/LOA B450 is not an authorization, but is a data collection template that tracks what sensitive countries an operator operates into or overflies. The B450 is applicable to 14 CFR parts 121, 125 (including part 125 Letter of Deviation Authority (LODA) holders), 135, and 91 subpart K. B450 is mandatory for the areas of operation identified as sensitive international areas authorized in the operator's B050 (see B050 guidance in this section). B450 is not mandatory for operators who do not have these affected areas of operation authorized in OpSpec B050 authorized.

B. Procedure. Any time a part 91K, 121, 125, (including part 125 LODA holders) or part 135 operator requests to add an area of operation in OpSpec B050, the principal operations inspector (POI) must determine if the added areas of operation is required to be listed on B450. The following steps will assist the POI in determining whether to issue or amend a B450:

1) Identify the B050 authorized area containing the country of proposed operation. Refer to the "Authorized Areas Country Listing" in the Web-based Operations Safety System (WebOPSS) guidance for help in locating a country within an authorized area.

2) Determine if the B050 authorized area is required to be listed on B450. Refer to the paragraph titled "Listing and Explanation of Authorized Areas of En Route Operations" located under OpSpec B050 guidance in this chapter and section. Find the authorized area and locate the Required Paragraphs listing. If B450 is a required paragraph for the authorized area, it will be listed. If the B450 is not listed do not issue or amend B450.

3) If B450 is required, identify whether the operator either overflies or operates into/out of any of the countries listed on the U.S. Prohibitions, Restrictions and Notices list of countries at the following Internet Web address: http://www.faa.gov/air_traffic/publications/ifim/us_restrictions/.

a) If the operator does not operate into/out of, or overfly a country listed on the Web site listed in paragraph B3 above (Excluding the United States, Bahamas, Canada, and Cuba):

1. Enter "N/A" in column 1, and do not fill in any other column in Table 1 of B450.

2. Complete Table 2.

b) If the operator does operate into/out of, or overfly a country listed on the Web site (Excluding the United States, Bahamas, Canada, and Cuba):

1. List in B450 the appropriate country in column 1 of Table 1.

2. Choose the flight operation (overflight, or into/out of) in column 2.

3. Choose the International Civil Aviation Organization (ICAO) code of the airport(s) if the operator operates into/out of that country. If multiple airports apply, enter the ICAO code for each airport separated by a comma. If the operator only overflies the country, leave the column blank.

4. Choose the frequency (daily, weekly, monthly, or on-demand).

5. Choose the type of operations (passenger, cargo, U.S. Government operations, or a combination) for the listed countries.

6. Choose the responsible persons (either management or operational control person(s) or operational control organization) and list the persons or organization in Table 2 of the template. This contact must be available 24 hours a day, 7 days a week.

4) If the B450 was previously issued or must now be issued because the operator has chosen to operate into an identified sensitive country on the Web list, the operator should amend B450 before operating that flight. In the case of a short notice charter, the operator may operate into or overfly the country before amending/issuing the B450 provided that the appropriate B450 action is completed within 72 hours after accepting the charter flight.

5) Operators and program managers should review the list of countries every 3 months for any changes and be cognizant of any Notices to Airmen that may add a country to the list, and amend or issue OpSpec/Mspec/LOA B450 as appropriate.

NOTE: The U.S. Prohibitions, Restrictions, and Notices list Web site referenced in paragraph B3 above will be modified to allow operators to sign up for e-mail notification of changes using a subscription e-mail service. When the subscription e-mail service is activated, the operator will be expected to monitor email updates for changes affecting their operations into sensitive international areas and update B450 accordingly. If a subscription e-mail service is utilized, this process replaces the 3-month review requirement.

RESERVED. Paragraphs 3-817 through 3-870.

VOLUME 3 GENERAL TECHNICAL ADMINISTRATION

CHAPTER 19 TRAINING PROGRAMS AND AIRMAN QUALIFICATIONS

Section 7 Flightcrew Qualification Curriculum Segments

3-1271 GENERAL. This section contains direction and guidance concerning qualification curriculum segments and qualification modules. A qualification curriculum segment is the final segment of each of the six categories of training defined in Volume 3, Chapter 19, Section 1. A qualification curriculum segment is composed of the testing, checking, and experience modules that a flightcrew member must successfully complete after formal training and before being qualified to serve unsupervised as a required flightcrew member in Title 14 of the Code of Federal Regulations (14 CFR) part 121 or 135 operations.

A. Primary Objectives. A qualification curriculum segment has the following primary objectives:

- To ensure that each flightcrew member has reached an acceptable level of proficiency in all assigned duties before being released from training and supervision; and
- To provide a means for measuring the effectiveness of the training program, and for identifying and correcting training deficiencies.

B. Guidance Application. The guidance in this section applies to the development and approval of qualification curriculum segments for both part 121 and 135 training curriculum. In general, equivalent qualification modules are required by both of these regulatory parts. Differences do exist, however, between part 121 and 135 curriculum segments in both terminology and details. When the guidance in this section applies specifically to one flightcrew duty position or regulatory part, the duty position or regulatory part will be specified.

3-1272 TYPES OF QUALIFICATION MODULES. Qualification curriculum segments are composed of qualification modules. Qualification modules are generally divided into testing, checking, and experience modules.

A. Definitions. The following definitions are used in this section:

1) Qualification Curriculum Segment. The segment of a specified curriculum that begins when formal training has been completed, and ends when the airman is fully qualified to perform unsupervised and without restriction in revenue service.

2) Testing. Any form of examination of knowledge or skill, whether oral, written, or practical.

3) Checking. Specifically, a practical skills test. (For flightcrew members, a check consists of physical manipulation of aircraft controls in real time.)

4) Basic Checking Module. The proficiency or competency check listed in a qualification segment of a curriculum outline required for qualification in the basic duties of an airman position.

5) Additional Checking Module. A check conducted to qualify an airman for an additional level of responsibility or skill, beyond that of the basic crew position.

6) Experience Module. An operation conducted in revenue service that is either under supervision or under restriction, and is measured in flight hours or in the number of repetitions of an event.

7) Line-Oriented Flight Training (LOFT). LOFT is a module of training conducted in a simulator after completion of a basic checking module to satisfy the requirements of part 121 appendix H.

B. Experience Modules. Title 14 CFR requires that experience modules be completed before a crewmember perform unsupervised and without restriction in revenue service. Other experience modules are required for special authorizations or to reestablish currency. One or more of the following experience modules may be required in a qualification curriculum segment:

- Operating Experience (OE),
- Pilot-in-command (PIC) experience (required to use standard turbojet minimums),
- Special operations experience (such as Class II long-range navigation (LORAN)), or
- Currency (to reestablish landing or instrument currency).

3-1273 FORMAT OF QUALIFICATION CURRICULUM SEGMENTS. The content of a qualification curriculum segment for part 121 operations is almost entirely controlled by regulation. A part 121 operator may, however, use more than one means of accomplishing these requirements. For example, an operator could conduct checks for most categories of training in a C-level simulator. In such a case, the operator would be required to conduct a LOFT training module after the completion of the basic checking module. An operator that uses an A-level simulator would be required to conduct the basic checking module in the simulator and a second module in the airplane. The requirements of a part 135 competency check are not specified in 14 CFR, but are left to the discretion of the Administrator and the check airman conducting the check. To ensure that a clear understanding exists between the operator and the Federal Aviation Administration (FAA), the principal operations inspector (POI) should require that the operator list each element or event in a qualification module along with the device to be used. The operator's format may either be a simple outline, a table such as those contained in Table 3-70, Part 135 Checking Modules—Airplanes and Table 3-71, Part 135 Checking Modules—Helicopters or any other format that the POI finds clearly establishes the methods to be used and elements and events to be checked.

3-1274 PART 121 REQUIRED CERTIFICATES. All flightcrew members must hold specific certificates and ratings before performing duties in part 121 revenue service. If a

flightcrew member does not hold the required certificates and/or ratings, they must be obtained when the flightcrew member completes the qualification curriculum segment.

A. PIC. A PIC in part 121 operations must hold the following:

- Airline Transport Pilot Certificate (ATPC),
- Airplane category rating,
- Appropriate class rating,
- Applicable type rating, and
- First-class medical certificate.

B. Second in Command (SIC). An SIC in part 121 operations must hold the following:

- Commercial pilot certificate or ATPC,
- Instrument rating or ATPC,
- Airplane category rating,
- Appropriate class rating, and
- At least a second-class medical certificate.

C. Flight Engineer (FE). An FE must hold the following:

- FE certificate,
- Applicable class rating, and
- At least a second-class medical certificate.

3-1275 PART 135 REQUIRED CERTIFICATES AND RATINGS. All pilots must hold specific certificates and ratings before performing duties in part 135 revenue service. If a pilot does not hold the required certificates, then SICs must hold at least the following:

A. Pilot Certification Requirements—Airplanes. Pilot certification requirements for part 135 airplane operations depend on the kind of operation being conducted and the type of airplane used.

1) PICs conducting passenger-carrying operations in a turbojet airplane or any airplane having 10 or more passenger seats (excluding any crewmember seat), or any commuter flight in a multiengine airplane regardless of the number of passenger seats must hold the following:

- ATPC,
- Airplane category rating,
- Class rating (as appropriate):
  - Airplane Single-Engine Land (ASEL),
  - Airplane Multiengine Land (AMEL),
  - Airplane Single Engine Sea (ASES), or
  - Airplane Multiengine Sea (AMES).
- Type rating (as appropriate), and

- First-class medical certificate.

2) PICs conducting part 135 flight operations in airplanes other than those described in subparagraph 3-1275A1) above, must hold the following:

- ATPC,
- Commercial pilot certificate with instrument—airplane rating,
- Airplane category rating,
- Class rating (as appropriate):
  - ASEL,
  - AMEL,
  - ASES, or
  - AMES.
- At least a second-class medical certificate.

3) SICs conducting any part 135 airplane operations must hold the same certifications as a PIC in subparagraph 3-1275A2) above.

NOTE: Certain pilots conducting part 135, visual flight rules (VFR) only operations with single engine reciprocating-powered airplanes in isolated areas, not a commuter operation, and not transporting contract mail, may be relieved of the requirement to hold an instrument rating in accordance with part 135, § 135.243(d) and authorized by operations specification (OpSpec) A020.

B. Pilot Certification Requirements—Helicopters. The pilot certification requirements for pilots conducting part 135 helicopter operations are as follows:

1) All PICs and SICs must hold at least the following:

- Commercial pilot certificate or ATPC,
- Rotorcraft category rating,
- Helicopter class rating, and
- At least a second-class medical certificate.

2) All PICs must hold a type rating, if a type rating is required.

3) PICs conducting part 135 instrument flight rules (IFR) or VFR over-the-top operations in helicopters must hold a helicopter instrument rating or an ATPC that is not limited to VFR.

3-1276 PART 135 MINIMUM PIC FLIGHT EXPERIENCE REQUIREMENTS. Section 135.243(b) and (c) require that a PIC who does not hold an ATPC and who conducts operations that do not require an ATPC, must have acquired a minimum number of flight hours before serving as a PIC.

A. VFR Requirements. Before serving as a PIC in a VFR operation, the pilot must have accumulated at least the following flight hour experience:

- 500 total pilot flight hours,
- 100 cross-country flight hours, and
- 25 night, cross-country flight hours.

B. IFR Requirements. Before serving as a PIC in an IFR operation, the pilot must have accumulated at least the following flight hour experience:

- 1,200 total pilot flight hours,
- 500 cross-country flight hours,
- 100 night flight hours, and
- 75 actual or simulated instrument flight hours, 50 of which must have been in actual flight.

NOTE: Refer to Volume 5, Chapter 3 for guidance concerning the crediting of flight time in airplanes and helicopters to meet these requirements.

3-1277 THE BASIC CHECKING MODULE. The basic checking modules for both parts 121 and 135 are composed of two parts. One part consists of the written or oral test elements and the other part consists of the flight check events. Although they are distinct and separate parts, when combined they make up a single checking module.

A. Basic Checking Module Content. The subject areas that must be addressed in the written or oral test for the part 121 basic checking module are described in part 121 appendix F. The subject areas that must be addressed in the written or oral test for the part 135 basic checking module are described in § 135.293(a) and, for those PICs conducting IFR operations, in, § 135.297(c). These regulations require a written or oral test element as a distinct part of the basic checking module. The basic checking modules required for parts 121 and 135 are further discussed in paragraphs 3-1278 and 3-1279 respectively.

B. Performance Standards. In part 121 and 135 operations, a higher standard of proficiency may be required than that required for initial pilot certification. The standard required for basic checks is at least that required for obtaining the certificate which must be held to act as a PIC. For example, an SIC holding a commercial certificate with an instrument rating who is making an instrument landing system (ILS) approach in a DC-10 must perform to the same standard of proficiency as the PIC seated in the left seat who holds an ATPC and a DC-10 type rating. POIs should bring the following guidance pertaining to proficiency and competency checks in Volume 5 to the operator's and check airman's attention:

Table 3-69, Guidance Pertaining to Proficiency and Competency Checks

PARAGRAPH NUMBER(S)	SUBPARAGRAPH NUMBER(S)
13	B through D
15, 31, and 33	All
77	A through D
109	C through H
111-122, 129-144, 147-170, 173, 177-194, 241, and 249-268	All

C. Use of Simulators. An operator may take maximum advantage of simulators and training devices in designing qualification curriculum segments. For example, an operator may evaluate a PIC and an SIC simultaneously on many normal, non-normal, and emergency procedures when a simulator is used. POIs should encourage operators to design qualification modules accordingly.

D. LOFT Training. A LOFT training module is considered to be part of the qualification curriculum segment, but is an experience event, not a checking event. A pilot who qualifies for a certificate or rating in a C- or D-level simulator is issued the certificate or rating immediately after satisfactorily completing the basic check. The pilot is not qualified to either exercise the privileges of the certificate or rating or enter revenue service until the pilot has successfully completed the LOFT training module.

3-1278 PART 121 BASIC CHECKING MODULE. The basic checking module required in part 121 is referred to as a proficiency check. For pilots, a proficiency check consists of the written or oral test elements and the flight-test events specified in part 121 appendix F. Figure 3-80, Pilot Proficiency Check (Part 121), summarizes the elements and events that make up a proficiency check. A proficiency check qualifies pilots for both VFR and IFR Class I navigation and instrument approaches to standard minimums (Category I Approach (CAT I), if approved for the operator). Operations such as Category II Approach (CAT II) or Category III Approach (CAT III) require additional checking modules. For an FE, the proficiency check consists of the flight-test events summarized in Figure 3-81, Flight Engineer Proficiency Check (Part 121). Although part 121 does not specifically require a written or oral test element as part of the FE proficiency check, it is an FAA safety policy that a written or oral test be part of the FE proficiency check. POIs must ensure the test is included as an element of the basic checking module.

Figure 3-80, Pilot Proficiency Check (Part 121)

ORAL OR WRITTEN EQUIPMENT EXAM Both

GROUND OPERATIONS

- Preflight inspection..... Both
- Taxiing/Runway Operations..... Both
- Powerplant checks..... Both

TAKEOFFS

- Normal .....Both
- Instrument.....Both
- Crosswind.....Both
- With powerplant failure .....Both
- Rejected takeoff Both*1

INSTRUMENT PROCEDURES

- Area departure.....Both*
- Area arrival .....Both*

- Holding .....Both*
- Normal ILS approach.....Both
- Engine-out ILS.....Both
- Coupled ILS approach Both1
- Non-precision approach.....Both
- Second non-precision approach .....Both
- Missed approach from an ILS.....Both
- Second missed approach.....PIC
- Circling approach.....Both*2

IN-FLIGHT MANEUVERS

- Steep turns.....PIC*
- Specific flight characteristics.....Both5
- Approaches to stalls .....Both*
- Powerplant failure.....Both
- Two-engine inoperative approach.....Both
- (three- and four-engine aircraft)
- Normal landing .....Both
- Landing from an ILS.....Both
- Crosswind landing .....Both
- Landing with engine-out.....Both
- Landing from circling approach.....Both*2

NORMAL AND NONNORMAL PROCEDURES Both3

- Rejected landing.....Both
- Two-engine inoperative approach.....PIC

(three- and four-engine aircraft)

OTHER EVENTS.....At Check Airman's Discretion*4

NOTES:

"Both:" The term "both" applies to pilots in command (PICs) and second in commands (SICs).
* May be waived under certain conditions. (Refer to Volume 5, Chapter 3, Section 2.)
1 PIC and SIC may both simultaneously take credit for this event.
2 When the operator is authorized by OpSpec C075 to conduct circling approaches (this is not required for SICs if the operator's manual prohibits SICs from making this approach).
3 See guidance contained in Volume 5, Chapter 3, Section 2.
4 The check airman is authorized to evaluate any event required for the Airline Transport Pilot Certificate (ATPC). (Refer to Volume 5, Chapter 1, Section 2, Inspector Qualifications and Status.)

Figure 3-81, Flight Engineer Proficiency Check (Part 121)

NORMAL PROCEDURES

- Oral or written examination,
- Exterior preflight,
- Interior preflight,
- Panel setup,
- Fuel load,
- Engine start procedures,
- Taxi and before takeoff procedures,
- Takeoff and climb,
- Pressurization,
- Cruise and fuel management,
- Descent and approach,
- After landing and securing,
- Crew coordination,
- Situational awareness, traffic scan, etc.,
- Performance computations, and
- Anti-ice, deice.

NON-NORMAL AND EMERGENCY PROCEDURES

Sample as many non-normal and emergency procedures as needed to evaluate performance:

- Troubleshooting,
- Knowledge of checklist,
- Ability to perform procedures,
- Crew coordination, and
- Minimum equipment list (MEL) and Configuration Deviation List (CDL).

3-1279 PART 135 BASIC CHECKING MODULE. The flight test required to qualify a pilot for revenue service is termed a basic checking module when listed in a curriculum outline. Operators must design the basic checking module of a part 135 curriculum to satisfy the requirements of § 135.293. In addition, operators must satisfy the requirements of § 135.297 for PICs conducting IFR operations. Those operators whose PICs are authorized to use an autopilot (AP) in lieu of an SIC in IFR operations must include a demonstration of these skills in the basic checking module. This paragraph contains guidance POIs will use to review and approve basic checking modules and to conduct these checks.

A. Part 135, § 135.293 Requirements. All pilots who are qualifying in an aircraft type are required by § 135.293 to complete a check in that type of aircraft before entering revenue service and annually thereafter. Section 135.293(b) allows the Administrator to define airplanes with similar characteristics as a single type for purposes of this rule (refer to Volume 3, Chapter 19, Section 1, paragraph 3-1073 for aircraft of the equivalent series which are defined as a single type). The rule refers to this check as a competency check. The requirements of § 135.293 are aircraft specific; that is, each pilot must satisfactorily complete a competency

check in each type of aircraft (as defined in paragraph 3-1073) prior to operating that aircraft in revenue service. Section 135.293 does not specify the maneuvers (events) that must be accomplished on a competency check. The rule authorizes the Administrator or check airman to make this determination. To ensure standardization and an adequate level of safety, the minimum acceptable content of competency checks for a part 135 curriculum is established by this paragraph and is listed in Tables 3-70 and 3-71. Because operators may be authorized to conduct VFR-only operations or a combination of VFR and IFR operations, separate requirements have been established for VFR-only competency checks and for combined VFR and IFR operations competency checks. These requirements are indicated in columns marked "VFR COMP" and "IFR COMP" on each figure. As a matter of national safety policy, some demonstration of competency of the pilot's ability to maneuver the aircraft solely by reference to instruments will be included on each competency check. For VFR competency checks, this demonstration will be appropriate to the aircraft's installed equipment and the operating environment. (Refer to note 7 to Table 3-70 and note 4 to Table 3-71.) The requirements for a "night vision enhancement device (NVED)/night vision goggle (NVG)" competency check are not helicopter make and model specific, because the appliance used is not unique to that helicopter and may be used in several different types of appropriately NVG-modified helicopters. Therefore, a crewmember who has been previously NVED/NVG qualified in another helicopter is not required to demonstrate annual NVED/NVG competency in each make and model of helicopter, once the initial § 135.293 and NVG checkout has been completed in the applicable make/model helicopter. However, it is recommended that the POI alternate NVED/NVG competency checks between helicopters to ensure an adequate level of competency in each helicopter. If the NVED/NVG competency check is used to accomplish the requirements of the "VFR COMP" § 135.293 check, the check must be completed in the specific make and model of helicopter for which the operator seeks § 135.293 qualification.

B. Part 135, § 135.297 Requirements. Section 135.297 requires that PICs complete an instrument proficiency check (IPC) prior to conducting IFR revenue operations. Thereafter, the PIC must have completed an IPC within the preceding 6 months to continue IFR revenue operations. The requirements of § 135.297 are not aircraft specific; that is, a single check fulfilling the requirements of § 135.297 is sufficient to qualify a PIC to conduct IFR operations in all types of aircraft in which the PIC is qualified according to § 135.293. Section 135.293(c) specifies that the check conducted to satisfy § 135.297 simultaneously satisfies the requirements of § 135.293 for the type of aircraft in which the check is accomplished.

NOTE: The oral or written test requirements of § 135.293(a) must be completed.

1) Operations Requiring an ATPC. Section 135.297(c)(1) requires that for operations requiring an ATPC, the IPC must consist of the maneuvers required for original issuance of that certificate and any applicable type rating.

2) Operations Requiring Commercial Certificates. Section 135.297(c)(1) also requires that for operations requiring a commercial certificate and an instrument rating, the IPC must consist of the maneuvers required for the original issuance of a commercial certificate, an instrument rating, and any applicable type rating.

C. Basic Checking Modules for § 135.293 VFR Competency Check. The minimum events for a § 135.293 VFR competency check are listed in the columns marked "VFR COMP" in Table 3-70 for airplanes and in Table 3-71 for helicopters.

D. Basic Checking Modules for § 135.293 IFR Competency Check. The minimum events for a § 135.293 IFR competency check are listed in the column marked "IFR COMP" in Table 3-70 for airplanes and in Table 3-71 for helicopters.

1) PIC Requirements. PICs being trained in initial equipment and transition curriculum for IFR operations have normally completed the requirements of § 135.297 within the preceding 6 months. If this is the case, the qualification module for these categories of training need only satisfy the requirements of § 135.293. The columns marked "IFR COMP" in Tables 3-70 and 3-71 reflect this assumption. When this assumption is not true, the operator must ensure that PICs meet the requirements of § 135.297.

2) Multiengine, General Purpose (GP) Family. Volume 3, Chapter 19, Section 1, subparagraph 3-1073C lists airplanes of the multiengine, GP family that the Administrator has determined to be of the same type for purposes of training and checking. Table 3-70 is constructed on the assumption that pilots in the transition category are qualifying in airplanes that are not of the same series. The basic qualification module of a transition training course for airplanes of the same series of the multiengine GP family of airplanes consists of the oral or written test required by § 135.293(a)(2).

3) Single-Engine, GP Family. All single-engine, GP airplanes are considered to be a single type for the purpose of training and checking. The qualification module of the transition category of training is the written or oral test required by § 135.293(a)(2).

E. Requalification Category. The minimum events of the requalification checking module are dependent upon whether the pilot is requalifying for VFR or IFR operations and the duty position. PICs who conduct IFR operations and have completed a § 135.297 check in the past 6 months but are overdue for a check required by § 135.293 may regain qualification by completing the items listed in the columns marked "IFR COMP" in Table 3-70 for airplanes and Table 3-71 for helicopters. PICs overdue in respect to the requirements of § 135.297 must complete the items listed in the columns marked "INST PROF" in Table 3-70 for airplanes and Table 3-71 for helicopters.

F. Recurrent Category. The minimum events of the "recurrent" checking module are dependent upon whether the pilot is maintaining currency for VFR or IFR operations and the duty position. PICs who conduct IFR operations and have completed a § 135.297 check in the past 6 months must complete a § 135.293 competency check to remain current. Complete those items listed in the columns marked "IFR COMP" in Table 3-70 for airplanes and Table 3-71 for helicopters. PICs due both a competency check and an IPC must complete the items listed in the columns marked "INST PROF" in Table 3-70 for airplanes and Table 3-71 for helicopters. Section 135.297 requires PICs to complete IPCs by rotating aircraft types. When one airplane is multiengine and the other a single-engine airplane, § 135.297(f) requires that this rotation begin with the multiengine airplane.

NOTE: Section 135.301 allows airmen and operators to consider a check conducted in the month before due or the month after due to have been accomplished in the month due.

G. SIC Qualification in Aircraft Not Requiring an SIC. The basic qualification module for an SIC in any operation (VFR or IFR) for which no SIC is required by regulation is either an instrument proficiency or VFR competency check in any aircraft of the same category and class and the written or oral test required by § 135.293(a)(2) for the type of aircraft involved.

H. Listing Module Events. To ensure that the content of the basic checking module is adequate and appropriate, the operator may choose (or the POI may require) that the minimum required events of each basic checking module be listed on the curriculum outline.

I. Recording Checks. Record the checks for those operators whose flightcrew members get all their checks from FAA inspectors (single pilot, single PIC, and basic operators) on FAA Form 8410-3, Airman Competency/Proficiency Check. POIs should encourage all other operators to create specifically tailored forms to record these checks which reflect the requirements listed in the operator's curriculum outline.

Table 3-70, Part 135 Checking Modules—Airplanes

EVENTS	VFR COMP.	IFR COMP.	INST. PROF.	NOTES
WRITTEN OR ORAL TEST 14 CFR § 135.297			P	
14 CFR § 135.293	B	B		
GROUND OPERATIONS Preflight Inspection	B	B	P	#
Start Procedures	B	B	P	#
Taxiing/Runway Operations	B	B	P	#
Pretakeoff checks	B	B	P	#
TAKEOFF AND DEPARTURES Normal	B	B	P	
Crosswind	B	B	P	1
Instrument		P	P	2
With powerplant failure	B	B	P	ME Only
Rejected takeoff	P	P	P	3, ME Only
Short field	P	P	P**	SE Only
Only Area departure			P*	
IN-FLIGHT MANEUVERS Steep turns	P**	P**	P**	
Approaches to stalls	B	P	P	10
Powerplant failure	P	P	P	
2-engine inoperative approach	P	P	P	3 & 4 Eng. Aircraft
INSTRUMENT PROCEDURES Area arrival			P*	
Holding			P**	

EVENTS	VFR COMP.	IFR COMP.	INST. PROF.	NOTES
Normal ILS approach		L	P	4, 8
Engine-out ILS		P	P	8, ME Only
Coupled approach		P	P	4, 8
Non-precision approach		B	P	11
Second non-precision approach			P	11
Missed approach from an ILS			P	
Second missed approach			P	
Circling approach			P	13
LANDINGS AND APPROACHES TO LANDINGS Normal	B	B	P	12
Crosswind	B	B	P	5
Landing from an ILS			P	
Landing with engine-out	B	B	P	ME Only
Circling approach			P	13
Rejected landing			P	
2-engine inoperative landing	P	P	P	3 & 4 Eng. Aircraft
Short Field landing	P	P	P	SE
Only No Flap approach	P	P	P	6, 14
SEA & SKI OPERATIONS (If applicable) Normal TO & Landing	B	B	P	
Steep Turns	P **	P **	P **	
Glassy & Rough Water	P **	P **	P **	
Sailing	P **	P **	P **	
Docking	P **	P **	P **	
NONNORMAL AND EMERGENCY PROCEDURES System Malfunction	B	B	P	#
Maneuver by Partial Panel	B	B	P	9
Unusual attitude Rec.	B	B	P	
Emergency Landing	B	B	P	SE Only
Instrument Approach	B			7

NOTES TO TABLE, PART 135 CHECKING MODULES—AIRPLANES

P Pilot in command (PIC).
B Both the PIC and second in command (SIC).
Both PIC and SIC may be evaluated performing their assigned duties in these events simultaneously when the check pilot is not seated at the controls.
***** May be waived at the discretion of the principal operations inspector (POI) and the check airman when the check is not simultaneously conducted for certification. (Refer to Volume 5, Chapter 3, Section 2.)
****** May be waived at the discretion of the POI and the check airman when the check is not conducted in conjunction with initial new-hire or initial equipment training.
1 See Volume 5, Chapter 3, Section 2.
2 See Volume 5, Chapter 3, Section 2.

3 See Volume 5, Chapter 3, Section 2.
4 The applicant must demonstrate the ability to use all installed equipment including autopilots (APs) and flight directors. In multiengine airplanes, an engine-out instrument landing system (ILS) may be substituted for the normal ILS at the option of the inspector or check airman administering the check.
5 See Volume 5, Chapter 3, Section 2.
6 See Volume 5, Chapter 3, Section 2.
7 POIs must ensure applicants accomplish this event in an aircraft the operator uses in revenue operations (or in an appropriately equipped simulator or training device.) The event should reflect a realistic course of action the pilot might take to escape from an inadvertent encounter with instrument flight rules (IFR) conditions. POIs should approve methods appropriate to the aircraft, equipment, and facilities available. When the pilot is authorized to operate an appropriately equipped aircraft and the check is conducted at a location where an ILS is operational, demonstrate an ILS approach. POIs may also approve a letdown on partial panel when this would be an appropriate course of action.
8 See Volume 5, Chapter 3, Section 2.
9 Airplanes not having standby instrumentation.
10 See Volume 5, Chapter 3, Section 2.
11 See Volume 5, Chapter 3, Section 2. Any two non-precision approaches authorized by the OpSpecs may be accomplished at the discretion of the inspector or check airman conducting the check.
12 See Volume 5, Chapter 3, Section 2.
13 SICs need not be evaluated in circling approaches when the operator's procedures restrict SICs from conducting this event in revenue service.
14 Required only for transport, commuter, turboprop, and Special Federal Aviation Regulations (SFAR) aircraft families as described in Volume 3, Chapter 19, Section 1.

Table 3-71, Part 135 Checking Modules—Helicopters

EVENTS	VFR COMP.	IFR COMP.	INST. PROF.	NVED/ NVG	NOTES
WRITTEN OR ORAL TEST 14 CFR § 135.297			P		
14 CFR § 135.293	B	B		B	
GROUND OPERATIONS Preflight Inspection	B	B	P	B	#
Start Procedures	B	B	P	B	#
Taxiing and Ground Hover	B	B	P	B	#
Pretakeoff checks	B	B	P	B	#
TAKEOFF AND DEPARTURES Normal	B	B	P	B	
Instrument		P	P		1
With powerplant failure	B	B	P	B	ME Only
Rapid Deceleration	P	P	P	B	2
Area departure			P **		
IN-FLIGHT MANEUVERS Steep turns			P **		
Settling with power	B	B	P	B***	
Unusual Attitude Recovery	B	B	P	B	4
INSTRUMENT PROCEDURES Area arrival			P **		
Holding			P **		

EVENTS	VFR COMP.	IFR COMP.	INST. PROF.	NVED/ NVG	NOTES
Normal ILS approach		B	P		3,5
Engine-out ILS		P	P		5, ME Only
Coupled approach		P	P		3, 5
Non-precision approach		B	P		7
Second non-precision approach			P		7
Missed approach from an ILS			P		
Second missed approach			P		
Circling approach			P		9
LANDINGS AND APPROACHES TO LANDINGS Normal	B	B	P	B	8
Landing from an ILS			P		
Landing with engine-out	B	B	P	B	ME Only,
Circling approach			P		9
SEA & SKI OPERATIONS (If applicable) Normal TO & Landing	B	B	P	B	
NONNORMAL AND EMERGENCY PROCEDURES System Malfunction	B	B	P	B *	#
Recovery from IMC	B	B	B	B	4
Maneuver by Partial Panel	B	B	P		6
Instrument Approach	B	B	P		4
Power failure and Autorotation to a power recovery	B	B	P	B	SE Only
Hovering Autorotations	B	B	P	B	SE Only
Tail Rotor Failure	B	B	P		Oral Only
Dynamic Rollover	B	B	P		Oral Only
Low Rotor RPM	B	B	P		Oral Only
Anti-Torque System Failure	B	B	P		Oral Only
Confined Area/Pinnacle Operations	P		P	B	
Slope Operations	P		P	B	
Ground Hazard Recognition				B	
Brownout/Whiteout/Flat Light Operations				B	
Use of External Lighting				B	

NOTES TO THE TABLE, PART 135 CHECKING MODULES—HELICOPTERS

Both the pilot in command (PIC) and second in command (SIC) may be evaluated performing their assigned duties in these events simultaneously when the check pilot is not seated at the controls.

***** This will include a simulated night vision goggle (NVG) failure with appropriate recovery procedures.

****** May be waived at the discretion of the principal operations inspector (POI) and the check airman when the check is not conducted in conjunction with initial new-hire or initial equipment training.

******* This maneuver is only required if the certificate holder is operating under part 121. This maneuver may be waived at the discretion of the POI and check airman when the check is not conducted in

conjunction with initial new-hire or initial equipment training. Initial night vision enhancement device (NVED)/NVG training does not require this maneuver to be demonstrated or performed.

1 See Volume 5, Chapter 3, Section 5.

2 See Volume 5, Chapter 3, Section 5.

3 The applicant must demonstrate the ability to use all installed equipment including autopilots (APs) and flight directors. In multiengine helicopters, an engine-out instrument landing system (ILS) may be substituted for the normal ILS at the option of the inspector or check airman administering the check.

4 The event should reflect a realistic course of action the pilot might take to escape from an encounter with inadvertent instrument meteorological conditions (IMC). POIs should approve methods appropriate to the aircraft, equipment, and facilities available. Training and checking must provide emphasis on avoidance of inadvertent instrument flight rules (IFR), including the discipline and decisionmaking required to divert, make a precautionary landing, or make an emergency transition to IFR, as appropriate to the circumstances. This event must include attitude instrument flying, recovery from unusual attitudes, navigation, air traffic control (ATC) communications, and at least one instrument approach. If the aircraft is appropriately equipped and the check is conducted at a location where an ILS is operational, demonstrate an ILS approach. If unable to conduct an ILS approach, if the aircraft is equipped with an IFR approach-capable Global Positioning System (GPS) receiver, and the operator maintains their GPS to IFR standards, including a current IFR database, and the check conducted where a GPS approach is available, demonstrate a GPS approach. If neither an ILS nor GPS procedures can be performed, another instrument approach must be performed. Partial panel operations should be considered if attitude and gyroscopic heading information are available from single sources.

5 See Volume 5, Chapter 3, Section 5.

6 Helicopters not having standby instrumentation.

7 See Volume 5, Chapter 3, Section 5. Any two non-precision approaches authorized by the operation specification (OpSpecs) may be accomplished at the discretion of the inspector or check airman conducting the check.

8 See Volume 5, Chapter 3, Section 5.

9 SICs need not be evaluated in circling approaches when the operator's procedures restrict SICs from conducting this event in revenue service.

10 The accomplishment of the NVG check does not meet the requirements of a § 135.293 "A" and "B" check, unless all requirements for visual flight rules (VFR) and IFR (competency check), if required, are completed.

3-1280 CREDIT FOR CERTIFICATION FLIGHT CHECKS.

A. ATPC Flight Check. When a flight check is conducted for an ATPC or for an additional type rating to an ATPC, the certification flight check, if conducted in accordance with the applicable air carrier's program, may simultaneously be credited for a part 121 proficiency check, a part 135 competency check, or a part 135 IPC, as applicable.

B. FE Certificate. The certification flight test for an FE certificate or class rating simultaneously satisfies the part 121 proficiency check requirement.

3-1281 CONDUCT OF PROFICIENCY AND COMPETENCY CHECKS. Specific direction and guidance for the conduct of certification flight tests is in Volume 5, Chapters 1, 3, and 4. The same standards, direction, and guidance are applicable to both inspectors and check airmen when conducting proficiency checks, VFR competency checks, and IFR competency checks. POIs must evaluate the operator's check airman program to ensure that check airmen are

applying the same standards and are adhering to the direction and guidance for proficiency and competency checks that are applicable to certification flight checks.

A. Waiving of Events. Inspectors and check airmen may waive those events indicated by an asterisk in Figures 3-80 and 3-81, and Tables 3-70 and 3-71. This provision applies to all checks conducted under part 121 and those part 135 checks which do not involve certification. The waiver provisions of part 61 apply only to airmen employed by part 121 operators (refer to 14 CFR part 61, § 61.157(c)).

1) The use of waiver authority is not automatic. Check airmen are cautioned to exercise judgment in the use of this authority. When an applicant demonstrates a high level of performance, check airmen should make liberal use of the waiver authority. When an applicant's performance only approaches the minimum acceptable standards, however, none of the events of the flight test should be waived.

2) Inspectors and check airmen are cautioned that some waiver provisions apply to portions of an event rather than to a whole event (for example, the stall series). Other events have specific conditions which must be fully met before waiver authority may be exercised (for example, the second non-precision approach). See the discussion of the conditions and limitations of waiver authority and the guidance on acceptable means and standards for conducting specific checking events in Volume 5, Chapter 3, Section 2.

3) Part 121 appendix F contains certain restrictions on waiving events. For example, when a circling approach is required but cannot be accomplished due to traffic or other reasons, it may be waived. Circling approaches, however, may not be waived for two successive checks. POIs will observe these same provisions for part 135 operators under the Administrator's authority to determine the content of part 135 checks.

B. Training to Proficiency. When a check airman determines that an event is unsatisfactory, the check airman may conduct training and repeat the testing of that event. This provision is made in the interest of fairness and to avoid undue hardship and expense for airmen and operators. Training may not be conducted, however, without recording the failure of these events. The quality control (QC) of a training program is accomplished, among other means, by identifying those events on checks which crewmembers fail. POIs must ensure the following guidance is supplied to operators and check airmen concerning the practice of training to proficiency:

1) Training and checking cannot be conducted simultaneously. When training is required, the check must be temporarily suspended, training conducted, and then the check resumed.

2) When training to proficiency is required, the check airman must record the events which were initially failed and in which training was given.

3) When training to proficiency is conducted and the check is subsequently completed within the original session, the overall grade for the check may be recorded as satisfactory. When the training required to reach proficiency cannot be completed in the original

checking session, the check must be recorded as unsatisfactory and the crewmember entered into requalification training.

4) When training to proficiency is required and it is practical to do so, the remaining events of the flight test phase should be completed before training in the failed event is conducted. If it is more practical, the failed event may be repeated at the end of a logical sequence. For example, training on a stall might be conducted at altitude after all other air work has been completed, but before returning to the traffic pattern.

5) If, after having received training, the airman fails an event again, the failure must be recorded, and the crewmember must be entered into requalification training.

NOTE: If for mechanical or other reasons the check cannot be completed after the failure of an event and before training and retesting can be accomplished, the check is considered terminated; however, the crewmember may not serve in revenue operations until the check is successfully completed.

3-1282 USE OF FLIGHT TRAINING DEVICES (FTD) AND FLIGHT SIMULATORS FOR PROFICIENCY AND COMPETENCY CHECKS. The guidance of this paragraph applies to the use of FTD and simulators in conducting either part 121 proficiency checks or part 135 competency and IPCs. The level of FTD or flight simulator that can be used for any particular flight test event in these checks depends on the crewmember's duty position and on the category of training. The maneuvers and procedures tables along with the introductory information in paragraphs 3-1245 through 3-1251 of Volume 3, Chapter 19, Section 6 specify the minimum level of FTD or simulator that can be used for a particular training event. This minimum level is also the level that can be used to test the event during a proficiency or competency check. Before beginning a proficiency or competency check, inspectors and check airmen must determine which flight test events can be conducted in the FTD or simulator to be used.

3-1283 THE OPERATING EXPERIENCE QUALIFICATION MODULE. PICs and SICs in part 121 operations who have been trained under an initial new hire, initial equipment, transition, or upgrade category of training, must acquire OE. Part 135 specifies that before a pilot may be assigned as a PIC in a commuter passenger carrying operation, that pilot must acquire OE in each make and basic model of aircraft in which the pilot is to serve as a PIC. The qualification curriculum segment outline that is applicable to these flightcrew member positions must list the appropriate requirements for each duty position. Both parts 121 and 135 specify the minimum flight hour requirements for these duty positions. An operator may elect to specify a greater flight hour requirement than the regulatory minimum. Inspectors must not approve any qualification curriculum segment that lists a flight hour requirement that is less than that specified by the appropriate regulation. When a pilot is actually acquiring OE, however, both § 121.434(f) and § 135.244(b)(4) provide for a reduction in the minimum flight hours. These regulations specify that the minimum hours may be reduced to 50 percent of the total required flight hours by the substitution of one takeoff and landing for one hour of flight.

A. Part 121 Minimum OE Flight Hours.

1) The minimum OE flight hours for pilots who have been trained under an initial new hire, or an initial equipment curriculum, or a PIC transition curriculum which includes training in a flight simulator under, § 121.409, are as follows:

- Group I reciprocating—15 hours,
- Group I turbopropeller—20 hours, and
- Group II turbojet—25 hours.

2) Section 121.434(c)(3)(ii) specifies the minimum flight hours for pilots who have been trained under a transition curriculum which does not include an approved course of training in a flight simulator, are as follows:

- Group I reciprocating—10 hours,
- Group I turbopropeller—12 hours, and
- Group II turbojet—15 hours.

3) Although part 121 requires OE for pilots who have been trained under an upgrade curriculum, the minimum flight hours are not specified. The following minimum flight hours are recommended, however, for an SIC upgrading to PIC, and for an FE upgrading to SIC, regardless of whether or not the upgrade curriculum includes training in a flight simulator:

- Group I reciprocating—SIC to PIC, 8 hours; FE to SIC, 15 hours,
- Group I turbopropeller—SIC to PIC, 8 hours; FE to SIC, 15 hours, and
- Group II turbojet—SIC to PIC, 10 hours; FE to SIC, 25 hours.

4) In accordance with, § 121.434(d), the minimum OE flight hours for FEs who have been trained under an initial new hire, initial equipment, or transition curriculum are as follows:

- Group I reciprocating—8 hours,
- Group I turbopropeller—10 hours, and
- Group II turbojet—12 hours.

B. Part 135 Minimum Flight Hours.

1) The part 135 flight hour requirement applies only to pilots who will be assigned to serve as PIC in a commuter passenger carrying operation. In addition, the minimum OE must be acquired for each make and basic model of aircraft in which the pilot is to serve as PIC. Section 135.244 specifies that the type of engine powering the aircraft determines the minimum flight hours for commuter PICs, which are as follows:

- Single-engine airplanes and helicopters—10 hours,
- Multiengine, reciprocating powered, airplanes and helicopters—15 hours,
- Multiengine, turbine-powered airplanes and helicopters—20 hours, and
- Turbojet powered airplanes—25 hours.

2) Part 135 does not require that SICs who are to serve in commuter operations acquire OE. POIs should, however, encourage part 135 commuter operators to include an OE

module in their qualification curriculum segments for SICs. For example, the SIC qualification module could require the pairing of a newly trained SIC with only a highly experienced PIC for a specified number of hours or until an experienced PIC has certified that the SIC is proficient in assigned duties.

C. Conduct of OE. All flightcrew members must have successfully completed a flight check before starting OE, and are therefore considered to be qualified to serve in revenue operations, under the appropriate supervision. OE must be acquired while conducting revenue operations, except when the aircraft has not been previously used by the operator. In this case, the flight hours acquired while conducting proving flights, ferry flights, or training flights may be credited towards the OE requirement.

1) A pilot in the process of acquiring OE as a PIC under the provisions of parts 121 and 135 must occupy the appropriate pilot position and perform PIC duties under the supervision of a check airman. The check airman must also occupy a pilot position. In the case of a PIC trained under a transition curriculum, however, the check airman may occupy a jump seat after the qualifying PIC has made at least two takeoffs and landings and the check airman is satisfied that the pilot candidate is competent to perform the duties of a PIC. During the time that a qualifying PIC is acquiring OE, the supervising check airman should give instruction as needed and help to refine the pilot's proficiency as a PIC. The check airman must determine when the PIC is fully proficient and ready to be administered an initial line check. If the qualifying PIC is not ready for an initial line check after the minimum flight hours have been completed, the supervision must be continued until the PIC is proficient. The check airman should not recommend an initial line check until the check airman is satisfied that the qualifying PIC is proficient. If the check airman recommends the PIC for an initial line check before the minimum flight hours are acquired, the time spent conducting the line check may be credited toward the required flight hours. In all cases, however, the qualifying PIC must acquire the minimum flight hours under the supervision of a check airman before the PIC can be released to operate unsupervised in revenue flights.

2) A pilot in the process of acquiring OE as an SIC under the provisions of part 121 must occupy the appropriate pilot position and perform the duties of an SIC under the supervision of a check airman. The check airman must also occupy a pilot position. The qualifying SIC must acquire the minimum flight hours under the supervision of a check airman before the SIC can be released to operate unsupervised in revenue operations.

3) An FE in the process of acquiring OE must perform the duties of an FE at the FE station under the supervision of an FE check airman or a qualified FE. In either case, the qualifying FE must acquire the minimum flight hours before being assigned as the required FE in revenue operations. When an operator schedules FEs to acquire OE under the supervision of a qualified FE who has not been trained as a check airman, the POI should consider special en route surveillance of those FEs after they are assigned as required FEs in revenue operations. The purpose of this special surveillance is to determine whether the operator's training, flight-testing, and OE programs sufficiently prepare the FEs for line operations.

D. OE Qualification Guides. POIs should encourage operators to develop an OE qualification guide to be used by supervisors and check airman. The purpose of the qualification

guide is to ensure that a crewmember systematically gains experience in all required duties the crewmember will later be required to perform without supervision. Some of the typical experience events that might be incorporated in a qualification guide are as follows:

- Terminal security procedures;
- Aircraft security and anti-hijacking procedures;
- Weather forecasts and information sources;
- Flight planning;
- Dispatch procedures;
- Cockpit setup, initialization of computers, entering present position and waypoints, confirming navigation setup;
- Weight and Balance (W&B) computation (including last minute changes);
- ATC flow control procedures;
- MEL and CDL procedures;
- Pushback and powerback procedures and limitations;
- Procedures for fueling and confirming fuel loads;
- Familiarity with major terminal areas;
- Terminal and en route communications;
- Flight progress and fuel monitoring procedures;
- In-flight weather watch; and
- Diversion procedures.

3-1284 THE LINE CHECK QUALIFICATION MODULE. Both parts 121 and 135 specify that before a pilot can serve as an unsupervised PIC in revenue operations, that pilot must have satisfactorily completed a line check. Except for requalification training, the qualification curriculum segment for PICs should include a line check module as a requirement for all other categories of training. Requalification training curriculum that are used to requalify PICs who have been unqualified for 12 months or more should include a required PIC line check module. Both parts 121 and 135 specify that all PICs must satisfactorily complete a line check once every 12 calendar-months in at least one of the aircraft types in which the PIC is to serve. Therefore, the qualification curriculum segment for recurrent training should include a line check module for the PIC.

A. General Direction and Guidance. Part 121 specifies that the line check is to be given by a check airman who is properly qualified in the particular airplane being used. In certain unique situations, such as when an operator is qualifying an initial cadre of check airmen, the only practical way of completing the line check requirement may be for an FAA inspector to conduct the line check and to certify the PIC's performance. Part 135 specifies that the line check may be given by an approved check airman or an FAA inspector. For both parts 121 and 135, the amount of time flown during a line check may be credited to the OE flight hour requirement. The line check, however, should not be conducted until the OE flight hour requirement has been substantially completed. When a PIC serves in both part 121 and 135 operations, a line check conducted in a part 121 aircraft satisfies the part 135 line check requirement. POIs should encourage operators to place emphasis on their line check programs. A well-run line check program can provide detection of deficiencies and adverse trends and establish the need for a revision of old procedures or an initiation of new procedures. POIs

should encourage operators to design and use line check forms to facilitate the collection of such information.

B. Part 121 Line **Checks.** For part 121 operations, the line check must be conducted over at least one typical route in which the PIC may be assigned. If the typical route the PIC will be flying includes Class II navigation, the line check must be conducted on a route where Class II navigation is used. The line check may be conducted during either revenue or nonrevenue operations.

C. Part 135 Line Checks. For part 135 operations, the line check must consist of at least one route segment over a civil airway, an approved off airway route, or a portion of either, including takeoffs and landings at one or more airports that are representative of the operator's type of operation. In certain part 135 operations, it may not be practical to conduct a line check during revenue operations. In these cases the POI may authorize that the line check be conducted during the same flight period that the competency check is conducted. If the line check is conducted in this manner, the line check portion of this flight period must include the requirements previously discussed in this paragraph.

3-1285 ADDITIONAL CHECKING MODULES. Additional checking modules include flight test events that must be conducted to qualify flightcrew members for special operations, such as CAT II or CAT III instrument approach procedures. Another example of an additional checking module is the requirement that a PIC be initially qualified over a route or area requiring a special type of navigation such as inertial navigation system (INS), Very Low Frequency Radio Navigation System (OMEGA), or long-range navigation-C system (LORAN-C) (see § 121.445(d)(2)).

A. Concurrent Checks**.** Additional checking modules are frequently conducted concurrently with a proficiency check, competency check, or line check.

1) The regulations and advisory circulars (AC) require additional checks, but usually do not specify the content of these checks. Since there are often several acceptable means of conducting these checks, the additional checking module outline must specify the content of these checks (see examples in paragraph 3-1272).

2) When a part 121 or 135 operator chooses to conduct an additional checking module in conjunction with a basic checking module, the requirements of both modules must be accomplished. A single event may, however, be credited for both modules simultaneously. For example, an operator who conducts basic checking modules and CAT II additional checking modules at the same time may combine the ILS approach requirements. The basic checking module requires a normal ILS; a manually flown, engine-out ILS; a coupled ILS; a landing from an ILS; and a missed approach from an ILS. The normal ILS and the coupled ILS may be combined in the basic checking module for a minimum of two ILS approaches. In this case, one approach must terminate in a landing and one in a missed approach. For an operator who conducts only coupled CAT II approaches, the CAT II additional checking module requires a minimum of two approaches to CAT II minimums; one approach must be to a landing and one to a missed approach. A POI may approve combining the compatible events of these two modules. In this case, the combined requirement is one-engine-out, manually flown ILS to CAT I

minimums; one coupled, CAT II ILS to a landing, and one coupled, CAT II ILS approach to a missed approach. POIs who have concerns over what combinations are permissible should consult the regional Flight Standards division (RFSD). The RFSD should coordinate with Air Carrier Training and 142 Training Center Branch (AFS-210) when necessary.

B. Additional Checking Modules. Operators may choose to conduct additional checking modules separately from a proficiency check, a competency check, or a line check. It may be more practical to accomplish an additional flight test separately because of high minimum PIC requirements or because of pilot bidding practices for international routes. When an operator conducts separate checking modules, the operator must limit the use of flightcrew members to those operations that do not involve the special operations until the flightcrew members have satisfactorily completed the additional testing.

RESERVED. Paragraphs 3-1286 through 3-1300.

VOLUME 3 GENERAL TECHNICAL ADMINISTRATION

CHAPTER 55 PART 145 REPAIR STATIONS

Section 1 Review and Approve a Part 145 Repair Station's Training Program

3-4461 PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODES.

A. Maintenance: 3230, 3396, 3397.

B. Avionics: 5230, 5396, 5397.

3-4462 OBJECTIVE. This chapter defines the terms and requirements for approval of a repair station's training program under Title 14 of the Code of Federal Regulations (14 CFR) part 145 by the responsible aviation safety inspector(s) (ASI). It also explains the policies and procedures applicable to repair stations of varying size and complexity.

3-4463 DEFINITIONS.

A. Course. A course is a set number of lectures, materials, or number of hours of study in a particular subject. For example, a course under the initial course of study for managers and supervisors may be "Repair Station Manual, Policies, and Procedures."

B. Course of Study. A course of study, or curriculum, is a series of related separate courses in a subject area, such as the initial course of study for managers and supervisors.

C. Course Outline. A course outline, or syllabus, outlines the entire subject presented in an individual course. The course outline for the "Repair Station Manual, Policies, and Procedures" course may include the modules devoted to the Repair Station Manual (RSM), repair station policies, and repair station procedures, with each module further broken down into subjects. For example, the "procedure" module could include "Recordkeeping Procedures, Timekeeping Procedures, and Facility Security Procedures."

D. Course Module. A course module is a set, logical, self-contained unit of a course. A course module may be given in one training session or lecture or spread over more sessions. Modules of the "Repair Station Manual, Policies, and Procedures" course may be: "The Repair Station Manual;" "Repair Station Policies;" and "Repair Station Procedures."

E. Courseware. Courseware is instructional material developed for each curriculum, such as lesson plans, instructor guides, computer software programs, audiovisual programs, workbooks, aircraft or article technical manuals, and handouts. Courseware must accurately reflect curriculum requirements, be effectively organized, and be properly integrated with instructional delivery methods.

F. Employee Training Record. The training record is the employee file in which all training is documented and retained for Federal Aviation Administration (FAA) review for a minimum of 2 years.

G. Indoctrination. Indoctrination, or orientation, is part of the initial training for all incoming personnel on general procedures that are unique to the repair station's operation, maintenance and inspection systems, and regulatory compliance requirements. Indoctrination establishes a common core of knowledge among employees.

H. Initial Training. Initial training establishes new employee technical skill level and is adjustable based on an assessment of their training, experience, and relevant certificates held. However, whenever changes to repair station ratings, new tools and equipment, materials, and new methods, techniques, and practices are introduced to current employees as recurrent training, the initial training requirements for new employees should be updated, and existing employees should be provided abbreviated initial training on the new information.

I. Instructor. An instructor is an individual competent in the training methods, techniques, and practices, and familiar with the subject being taught.

J. Recurrent Training. Recurrent training is repetitive training at specific intervals to refresh employee knowledge of repair station policies, programs, and regulatory requirements. Alternatively, changes to repair station ratings, new tools and equipment, materials, and new methods, techniques, and practices may be imparted to existing employees through recurrent training.

K. Task. A task is a piece of work to be done, an individual task that is part of the maintenance, preventive maintenance, and alterations required to return an article to service under the privileges of the repair station certificate and rating as assigned by appropriate management or supervisory personnel.

L. Task Levels. Task levels are the areas defined in an article's technical data that comprise the division between maintenance, preventive maintenance, alterations, inspections, overhauls, and other definitions, and provide a clear indication of when a set of tasks is different from another set of tasks.

M. Testing and Checking. Methods for evaluating employees as they demonstrate a required level of knowledge in a subject and, when appropriate, apply the knowledge and skills learned in instructional situations to practical situations.

N. Training Categories. Training categories identify a distinct course of study such as indoctrination, initial, recurrent, remedial, and specialization training.

O. Training Hours. Training hours include the total amount of time necessary to complete the training required by a curriculum segment. This must provide an opportunity for instruction, demonstration, practice, and testing, as appropriate.

P. Training Methods. Training methods identify how the training will be conducted and include formal classroom, computer-based, on-the-job, distance learning, and embedded training.

Q. Training Program Characteristics. The training program characteristics are features of an overall good training program or good training program element, such as a needs assessment and program review.

R. Training Program Elements. An entire training program is made up of a number of different elements, such as the recordkeeping system, the initial course of study for managers and supervisors, or the recurrent course of study for inspectors.

S. Training Sources. Training sources identify who conducts the training. Possible training sources are original equipment manufactures, Aviation Maintenance Technician Schools (AMTS), operators and other repair stations, government agencies, and trade associations.

3-4464 BACKGROUND.

A. Prior to August 2001 Rule Change. Before the August 2001 Final Rule change, part 145 requirements did not specify training requirements for personnel involved in the repair of aircraft, accessories, or components that are returned to service by repair stations. Exceptions to the training program requirement were focused on those repair stations that performed maintenance, preventive maintenance, and alterations for 14 CFR parts 121 and 135 air carriers and those repair stations that were European Aviation Safety Agency (EASA)-accepted.

B. Contracted Work. The state of aircraft maintenance has undergone a great deal of change. There is a trend for air carriers to contract work out to repair stations. This is done often for heavy maintenance that is either in excess of the air carrier's capacity, and for a specific aircraft type of which few are in operation, or for a number of specific major repairs and alterations.

C. Repair Station Training Program. With the implementation of new repair station requirements, adoption of a training program for repair station employees who perform maintenance (including inspection), preventive maintenance, and alterations would enhance aviation safety by helping to ensure that those employees are fully capable of performing the work. It also promotes a level of safety equivalent to that of maintenance performed under parts 121 and 135.

3-4465 BASIC FORMAT REQUIREMENTS.

A. Training Program Purpose. The purpose of the training program is for the repair station to:

- Comply with the regulatory requirements of part 145, § 145.163;
- Provide the training necessary for employees to perform their job functions efficiently, safely, and correctly; and
- Familiarize employees with the RSM, quality systems, and procedures.

B. Training Program Manual. The RSM or training program manual must include procedures required by the regulations for revising the training program. It must also include

procedures for submitting those revisions to the certificate-holding district office (CHDO) for approval.

C. Locations Outside the United States. Repair stations located outside the United States should submit the repair station training program in English.

D. Procedures. The procedures should address how often the program will be reviewed to determine if it is current and adequate for the type of maintenance being performed at the facility. Because advancements in technology can cause aviation maintenance to change rapidly, a periodic review of training needs is appropriate. The procedures should include who will be responsible for planning recurrent training and any new training that may be necessary. Repair stations that have established a management review program should include the training program for review during that meeting.

E. The Principal Inspector (PI). The PI must review the initial or revised procedures in the certificate holder's or applicant's program submission. These should not be considered all inclusive. Each facility is unique and may require additional procedures to verify regulatory requirements and the needs of the repair station. Procedures may address the following:

- Who in the repair station is responsible for submitting the initial training program and subsequent revisions to the FAA?
- When will the revisions be submitted?
- How will the revision be approved (include the company approval as well as FAA)?
- How often will the repair station review training program currency and completeness?
- Who in the repair station will perform this review?
- How will the repair station record and implement revisions?
- How will the revised text be identified and program materials updated?

3-4466 PREPARATION.

A. Inspector Responsibilities. Each PI will need to become familiar with the operation of the repair station prior to reviewing and approving a repair station's training program submission. This is primarily due to the diversity in the certificate holder's size (physical size and numbers of employees), ratings, capabilities, contract activities, and personnel experience and skill levels. The PI should consider all of these to determine if the certificate holder's training program meets the regulatory requirements in this chapter.

B. Certificate Holder Responsibilities. The certificate holder is responsible to ensure that the training program continuously reflects the repair station's capabilities and the work its employees perform. Changes to any of the repair station's capabilities may constitute the need to revise the training program. Some of these capabilities include:

- Certificate ratings, privileges, and limitations,
- Maintenance functions performed,
- Personnel, position, ability, experience, and skill level,
- Tools, equipment, and materials,
- Procedures, methods, techniques, and practices,
- Contractual arrangements with an air carrier or operator,
- Contracting maintenance services,
- Regulatory requirements, and
- Certificate holder's RSM and quality system requirements.

C. Training Program Structure.

1) Repair Station Needs Assessment. The repair station's needs assessment procedures enable the repair station to identify its training requirements based on job positions, duties, and tasks. It also establishes an objective method for determining training standards, assessing the capability of its employees, and establishing training programs for its employees to fill the gap between position/skill/task requirements and employee capabilities. Procedures associated with the repair station's needs assessment will be based on its size, employee hiring, assignment and training practices, customer bases, and the complexity of its ratings and scope of operations. The repair station should establish the basic standard that identifies the individual employee's training needs by assessing the job functions and duties against the employee's specific skills and knowledge. The repair station can then assign training areas, programs, and lessons to fill any gaps between the skills and knowledge needed for the job tasks and the employee's capabilities.

a) The program description should include the processes the repair station will use to identify its training requirements for ensuring each individual assigned to perform maintenance (including inspection), preventive maintenance, and alterations tasks is capable of performing the job properly. The training needs assessment is a method of analyzing the job tasks associated with repair station's maintenance and alteration positions. This entails identifying the knowledge and skills required to successfully fill positions that perform maintenance and alteration tasks. In addition, when determining its training requirements, a repair station should analyze the nature of its business structure and its customers.

b) When identifying overall training needs, the repair station will consider:

- The tasks associated with each position responsible for performing maintenance, preventive maintenance, or alteration,
- The skills, experience, and training of new and current employees,
- How assessments will be made of employees being assigned new tasks,
- The return of an employee to tasks after an extended period,
- The introduction of new regulations, procedures, equipment, or recordkeeping requirements, and
- Change in the nature of basic repair station capability.

c) The needs assessment reviews the repair station's training requirements in the context of its existing staff's capability and tasks associated with specific work assignments. Based on the outcome of its training needs assessment, the repair station can develop and revise its areas of study and/or courses. The training needs assessment should identify the requirements for initial and recurrent training. Based on its needs assessment, the repair station will determine the type and extent of training needs for the company and for individual employees.

2) Employee Needs Assessment.

a) The repair station's procedure should evaluate the current capability of its repair station employees, both technical and nontechnical. Only those performing maintenance or alteration tasks must be trained under part 145; however, the repair station may wish to include employees that support or manage technical personnel. The training program should differentiate between those employees that require training under the program and those that will receive training in accordance with the procedures at the repair station's discretion. Once the repair station assesses a technical employee's capabilities, it will identify employee specific-training needs.

b) When carrying out any assessment of an individual's capabilities, the repair station's process should be as objective as possible and structured to produce consistent results. The repair station should establish the standard skill level and qualifications for assigned tasks under the job function or position, then establish objective methods for comparing an individual's capability to those standards. It may be necessary for the repair station to use more than one method to adequately assess an individual's capability. The repair station should also have procedures to accept prior experience, training, or education to establish an individual's capability. For example, a repair station may accept graduation certificates from a 14 CFR part 147 school and/or an Airframe and Powerplant (A&P) certification as acceptable evidence of a basic knowledge and skill level in a particular area. A repair station could also have procedures for accepting certificates from previous training by manufacturers, associations, or military records. The repair station should have procedures to ensure the following:

- The assessment is objective-based and consistent,
- The individual's training records document the assessment,
- The individual conducting the assessment is qualified to evaluate the results of the assessment, and
- The individual is capable of performing the tasks consistently at an acceptable level and assigning necessary initial, recurrent, or remedial training.

3) Indoctrination. Indoctrination training should consist of the repair station's specific operations and procedures. This is core training for all repair station personnel. The scope and depth of indoctrination training may vary based on the individual's assigned position. However, indoctrination training should be similar for all employees to establish a standard core of knowledge. The repair station should determine the level of indoctrination training required for each job assignment through its training needs assessment process. The training program should address the following subjects, regardless of the repair station's size or ratings:

a) Title 14 CFR requirements, particularly those associated with the repair station maintenance functions and authority as reflected on the certificate and operations specifications (OpSpecs).

b) Company manuals, policies, procedures, and practices, including quality control (QC) processes, particularly those associated with ensuring compliance with maintenance (including inspection), preventive maintenance, and alteration procedures established to show compliance with part 145.

c) Department of Transportation (DOT) hazardous material (hazmat) requirements, general Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA), and other local, State, and Federal laws requiring training for different categories of employees.

NOTE: The repair station must not confuse employee hazmat familiarization and training (Title 49 of the Code of Federal Regulations (49 CFR) part 172 subpart H) with the regulatory requirement of DOT 49 CFR part 171, § 171.8 hazmat employee/hazmat employer training standards, which require mandatory hazmat training for those personnel engaged in the shipping of hazmats.

d) Maintenance human factors. Training in maintenance human factors is an essential part of an FAA-approved training program. The repair station's submitted training program and any revision thereto must include human factors elements. The FAA will not prescribe what human factors elements to include, but those elements should focus on aviation maintenance and safety-related issues. If human factors were not included, their exclusion would hinder the training program approval. (See the current edition of Advisory Circular (AC) 145-10, Repair Station Training Program, for additional information.)

e) Computer systems and software, as applicable to the repair station's maintenance (including inspection), preventive maintenance, and alteration systems and procedures.

f) Facility security.

NOTE: Some of the subjects listed above do not fall under the direct purview of the FAA or the Flight Standards Service (AFS).

NOTE: Regardless of the experience level of incoming personnel, indoctrination on procedures unique to the repair station should ensure a smooth transition into the work environment. The repair station should schedule this phase of training within a reasonable time after hire to ensure that the employee understands the repair station's operations.

4) Initial Training. This training should consist of all the technical subject areas and be consistent with the specific employee's position and assigned job activities.

a) The repair station's technical training areas of study may be separate and distinct from indoctrination training and may apply to different categories of employees within a

given job position. Technical training requirements should focus on providing employees with the appropriate skill or task training required to properly perform job position assignments.

b) The repair station should have procedures to determine the applicable scope and depth of initial and/or recurrent training based on each job assignment and each employee's experience and capability established by the needs assessment. The needs assessment is the basis for determining an individual's initial and recurrent training requirements.

c) When developing the initial or recurrent training courses, the repair station may want to take into account that individuals will not have the same training, experience, and skill level. For example, when developing its initial course of study for technicians, a repair station may want to have separate programs for:

- Individuals that hold an A&P certificate,
- Individuals with experience performing similar tasks at another repair station,
- Individuals with applicable military aviation maintenance experience, and
- Individuals with no skills, experience, or knowledge.

d) A repair station may have more than one training course for its employees. For example, initial training for new repair station technicians with limited repair station experience may include the following in-depth courses:

- Maintenance human factors,
- Tools,
- Test equipment, including ground support equipment,
- Materials and parts,
- Records and recordkeeping,
- Specific hazmat, OSHA, and EPA requirements,
- Shop safety, and
- Specific job or task training.

NOTE: Training in maintenance human factors is an essential part of an FAA-approved training program. The repair station's submitted training program and any revision thereto must include human factors elements. The FAA will not prescribe what human factors elements to include, but those elements should focus on aviation maintenance and safety-related issues. If human factors were not included, their exclusion would hinder the training program approval. (See AC 145-10 for additional information.)

e) In contrast, initial training for new technicians with prior repair station experience may include a general review of the same subjects as necessary and detailed technical training only for specific job or task assignments. In all events, the repair station should establish an individual's specific training requirements based on a needs assessment. Additionally, whenever introducing new information on the topics, the repair station should update the initial training requirements for new employees and provide existing employees with abbreviated initial

training on the new information. Alternatively, the repair station may impart the additional information to existing employees through the recurrent training requirements.

f) The time devoted to initial or recurrent training can vary depending on the level of experience of the individual and skills and knowledge associated with the assigned job or tasks. However, the repair station should establish a basic minimum standard for all employees in a specific job position, whether through training given by the repair station or knowledge acquired through other sources. For example, the repair station could establish minimum time requirements for training or, alternatively, could assess the need for training based upon skills and knowledge testing. In either event, the repair station training program must ensure that the employee is capable of properly performing assigned tasks.

NOTE: Some of the subjects listed above do not fall under the direct purview of the FAA or AFS.

5) Recurrent Training. This training program element should provide procedures for recurrent training of subject areas relevant to a repair station employee's job function in order for them to remain current within their assigned job activities.

a) Recurrent maintenance training commonly includes training, known as refresher training, to ensure that a repair station employee remains capable of properly performing the assigned job. The repair station's program should define the terms "initial" and "recurrent" and identify the areas of study and/or courses/lessons that it will provide under the two definitions. The definitions should be associated with either the person receiving the training or the training course or information being offered. The repair station should have procedures to determine the recurrent training requirements for each job assignment or employee. Not all job assignments will have the same recurrent training requirements. The repair station may also wish to provide a procedure for determining when training is not required to ensure an employee is capable of performing assigned tasks.

b) The repair station should have procedures to determine the type and frequency of recurrent training for each of its employees through the needs assessment. The repair station may also need procedures to develop one-time recurrent training courses when there are changes to the subjects of initial training. Alternatively, or in addition, the repair station may define standard recurrent training that it will provide on a regular basis to address any subject provided in initial training. If the repair station provides new information on initial training requirements to existing employees under the recurrent training system, its program procedures should set forth two different types of recurrent training:

1. That which updates the initial training requirements on a one-time basis, and

2. That conducted on a regular basis (refresher training).

c) Each repair station's recurrent training program should differ as it should be based on the repair station's needs assessment, which will take into account its size, employees, customers, and complexity of ratings and operations.

6) Specialized Training. The repair station should have procedures to identify job assignments that will require special skills or have complexity that would require the development of specialized training to ensure capabilities. Some areas that may require specialized training include flame and/or plasma spray operations, special inspection or test techniques, special machining operations, complex welding operations, aircraft inspection techniques, or complex assembly operations. Individuals who attend specialized training and develop competency in a particular job assignment or task should be able to convey the information to other employees. The repair station's training program should address the initial and recurrent training requirements for any task or assignment that it determines requires specialized training.

7) Remedial Training.

a) A repair station should have procedures to determine an individual's training requirements, including when it will provide an employee with remedial training. The repair station should use remedial training procedures to rectify an employee's demonstrated lack of knowledge or skill by providing information as soon as possible. In some instances, remedial training may consist of an appropriately knowledgeable person reviewing procedures with an employee through on-the-job training (OJT). The repair station should design remedial training to fix an immediate knowledge or skill deficiency and may focus on one individual.

b) Successful remedial training should show an individual what happened, why it happened, and how to prevent it from happening again in a positive manner. Remedial training may be included in the repair station's definitions of initial or recurrent training requirements.

8) Training Documentation. Training program documentation should be tailored to the repair station's size and job assignments, complexity of capabilities, and maintenance functions.

a) The repair station must document, in a format acceptable to the FAA, the individual employee training records set forth in the manual approved by the FAA under § 145.163(a). The capability of each employee depends on training, knowledge, and experience. Consequently, the determination by the repair station that an employee is able to perform the maintenance, preventive maintenance, or alteration assignment requires an analysis of the factors that contribute to the employee's capability. The data to accomplish this analysis should be found in the employee's training records if the principles of this chapter are followed when the training program is developed.

b) The repair station may retain its training records electronically or in hardcopy. In either case, the repair station should standardize the format and content for the training records based on individual job assignments. However, each employee's records should contain at least:

1. The employee's name and job position.

2. Training requirements as determined by the needs assessment, including requirements for indoctrination, initial, and other training required by areas and course titles.

3. FAA certificates applicable to the qualifications. For example, supervisors, Required Inspection Items (RII) personnel, and persons approving articles for return to service must be certificated under 14 CFR part 65, excluding those repair station personnel located outside the United States and its territories (see paragraph 3-4467).

4. Other certifications, diplomas, and degrees.

5. Authorizations and qualifications (if not covered by part 65 certificates).

6. Proof of training course completion, if determined applicable to capabilities.

7. List of accomplished training, to include enough information to determine whether it is applicable to the employee's capability to perform assigned tasks:

- Course title or description,
- Course objective,
- Date completed,
- Test results,
- Total hours of training,
- Location of training,
- Name of instructor and/or instructor qualifications, and
- Signature of employee.

8. Other documentation relevant to determining capability to perform tasks associated with assigned duties, such as past employment, knowledge, oral, and practical tests results, etc.

c) All records that are required by the training program to determine whether an employee is capable of performing assigned tasks as well as those that document training conducted by the repair station should be considered those required by § 145.163(a). Therefore, the training program should detail these records and retain them for a minimum of 2 years. The repair station is encouraged to have procedures to regularly review all training records to ensure they comply with the requirements set forth in the training program manual.

D. Measurement of Capability. The training program should have methods to identify current levels of capability and methods for monitoring and managing capability. Section 145.163 requires that "the training program must ensure each employee assigned to perform maintenance, preventive maintenance, or alterations, and inspection functions is capable of performing the assigned task." Organizations should have a mechanism for determining capability of employees for all areas (both technical and non-technical) in which an employee is required to be competent. Assessing capability in the practical application of tasks and maintenance functions is difficult; therefore, it may be appropriate for the repair station to apply a selection of the mechanisms listed below.

1) Examination. A good mechanism for assessing knowledge, but not necessarily the capability of applying knowledge in a work context.

2) Interview.

3) Qualifications. A good source of evidence if the training course or other method used to gain the qualification is directly relevant and practical for application in the workplace.

4) Completion of Training Courses. A good way of providing information, but not sufficient to prove individual capability in applying the knowledge gained from the course.

5) On-the-Job Assessment. A good way of determining capability, however, its effectiveness relies heavily on the competence of the supervisor or manager conducting the assessment as it relies on their subjective judgment.

6) Human Factors Assessments. Employees are asked what they would take into account when doing particular tasks. As an example, a planner explains knowledge of maintenance human factors: he would consider the effect fatigue might have and schedule critical tasks to be completed during the day shift or at the start of the night shift rather than in the early hours of the morning. This explanation shows that the planner understands how some maintenance human factor issues are applicable to his job. The pervading culture within an organization may be contrary to good assessment principles (e.g., the culture might be that errors are not tolerated and are regarded as signs of incompetence). If this is the case, it is likely that judgments of capability will be biased towards that company culture. It is important, therefore, that employees are trained in how to assess capability, and that independent checks are carried out of the capability assessment process. Documentation of the assessment process should include:

a) Establish objective levels of capability (apprentice, journeymen, inspector, RII inspector, instructor, supervisor, etc.). Source background for identifying these levels can be based on the concepts described in the current edition of AC 65-2, Airframe and Powerplant Mechanics Certification Guide, and part 147 appendix A. Other sources of concepts may be required to determine instructor, manager, and other employee levels.

b) Establish levels of capability based on the specific job function of the employee and identify the task level to which that employee is able to perform.

c) Monitor and manage capability through documentation of the performance level of the employee:

- Method of ensuring that the employee understands the application of maintenance, preventive maintenance, or alterations, and the repair station's performance issues appropriate to that person's function in the organization,
- Recording of the capability of the employee to consistently repeat the performance of a task at an acceptable level,
- Audit of tasks performed,
- Method for identifying and correcting deficiencies,
- Foreign repair stations regulated by EASA use the word "competency" in their EASA Part-145 regulations. The FAA uses the word "capability" in

§ 145.163(b). When an FAA-certificated domestic or foreign repair station uses one of these words in their training program, they are to be considered synonymous in their meaning and application.

3-4467 ISSUES AFFECTING PROGRAM REQUIREMENTS. The following issues vary by repair station and may affect the construction of its training content.

A. Added Requirements. Maintenance performed for 14 CFR parts 121, 125, and 135, and for foreign air carriers or foreign persons operating a U.S.-registered aircraft in common carriage under 14 CFR part 129 adds requirements to the repair station training program, which must be documented. Repair station procedures should describe a plan for ensuring that training is conducted on the air carrier's program for the maintenance functions to be contracted prior to the facility performing maintenance, preventive maintenance, or alterations for the specific air carrier or commercial operator. Documentation and recording of the specific training is the responsibility of both the air carrier and the repair station. Documented training should show specifically that the repair station was trained in accordance with the air carrier's or commercial operator's program and applicable section of its maintenance manual.

B. Foreign Repair Stations. The significant difference between domestic and foreign repair station personnel is that foreign repair station personnel are not issued a certificate under part 65. Equivalent personnel positions must have the same level of training as specified for their domestic counterparts. This training would include those subject areas as discussed in this chapter.

C. EASA-Accepted Facilities.

1) Repair stations that hold approval under EASA may already have a training program that complies with part 145 requirements. PIs should perform a careful review of this program to ensure that the applicable regulatory requirements of part 145 or EASA Part-145, § 145.163 are met. Upon review by the PI to ensure that the training program contains all the required elements, the PI may then approve the program. The training program now becomes the repair station's FAA-approved training program. For a certificated repair station that operates within the guidelines defined in an "International Agreement," that repair station's training program is approved in accordance with the procedures of that agreement.

2) A difference between FAA and EASA requirements is that knowledge of human performance and limitations (HPL) has been in International Civil Aviation Organization (ICAO) Standards and Recommended Practices (SARPs) for many years. EASA Part-145 expanded its training requirement to extend HPL to all staff, as well as certifying staff, and to include initial as well as recurrent training.

3-4468 TRAINING METHODS AND SOURCES.

A. Methods. There are many methods available to formulate a good training program as well as actually delivering training. Certain training methods are more appropriate than others for teaching specific types of skill and knowledge. Training methods can be classified into one of the following categories:

1) Classroom Training. A training course is normally defined as one that is usually taught by a manufacturer or other aviation agency/operator, or by the repair station if instructor-training personnel are trained and subject matter experienced. A valuable asset of this type of training is the interaction between course instructors and attendees, where views and experiences are compared. The importance of a skilled and knowledgeable trainer cannot be overestimated. Much of the emphasis of training should be upon reinforcing or changing attitudes and imparting knowledge, and a good trainer/facilitator is the key. This is normally considered in classroom/formal training where the quality of the training relies heavily on the instructor's ability and the adequacy of the classroom environment.

2) OJT. OJT encompasses the basic principle of learning while accomplishing a task or work. Normally this consists of demonstrations and supervised practice with equipment and procedures in the actual work environment. It can be an effective method of imparting skills to employees and may be most effective when:

- Employees already have prerequisite knowledge and skills and do not need long explanation and discussions;
- The target skills can only be taught, or are best learned, in an actual work environment;
- The work environment cannot be reasonably simulated or replicated in the classroom or with computer-based training (CBT);
- The training task closely matches tasks found in the repair station, such as accomplishing steps in a procedure;
- The training program documents appropriate curriculum and syllabi; and
- The training program documents a method to ensure that OJT instruction personnel are qualified and experienced in giving training.

3) CBT. CBT, or Internet-based training, is a generic term that refers to any electronically-based technology that is used to create and deliver training. Most products include built-in testing, participant management, administration, and recordkeeping functions. There are wide varieties of hardware and software applications that can be used or tailored to a particular repair station's needs.

a) The primary advantages are an interactive method of training, intelligent tutoring systems, and the capacity of material to be adapted to individual employee needs with testing that conforms to a level of knowledge, skill, and pace. It permits the material presentation and testing to be standardized. It is also good for enhancing skills that require practice, such as troubleshooting and computational skills, or memorization of facts such as specifications. Use of CBT prior to attending a course/class can help ensure that an employee masters the basic prerequisite knowledge needed for the class.

b) Repair stations should assess whether or not the particular category of a training program can be completed by use of CBT alone or by adding practical skill level training and testing to ensure the appropriate capability level of the employee.

4) Distance Learning. This refers to any training in which the instructor and the employees are not in the same geographical location. There are many different forms such as:

- Mail-based correspondence courses using written, videotaped, or even CBT materials,
- Satellite and video conferencing or "virtual" classroom,
- CBT one-way video or one-way video with two-way teleconferencing; and
- Internet/Intranet, which can provide both live instruction and interactive courseware similar in manner to CBT.

a) Normally the employee watches a video, completes the corresponding work assignment, and the materials are mailed back to the granting institution.

b) The advantage to this type of training is that material, employee testing, and assessment are more likely to be standardized and can be tailored to a repair station's needs and provide information for required records.

5) Just-In-Time/Embedded Training.

a) This permits users to learn specific job tasks just before they need to accomplish it, or during the accomplishment of the task itself. This method of training is also called "embedded" training because it can be incorporated into the equipment or software that is used to perform the job in question. This type of training may encompass interactive instruction or application and require observation by an instructor or supervisor.

b) Embedded training can also appear in software applications and operating systems as sophisticated contextual "help" programs or tutorials. The application itself becomes the instructor. In this case, there is not usually a method to ensure that the employee can perform the specified task to an appropriate level. This means that the training program must contain a method to ensure that the designated knowledge and skill level is obtained by the employee. Embedded training is most appropriate under the following conditions:

- Employees cannot be novices and must have some knowledge of the topic or task;
- The task to be learned is clearly identified in scope and is conceptually simple;
- The media and method in which training is embedded are part of the task or equipment to be learned; and
- A clear record of the employee testing and assessment must be contained in the repair station's program.

B. Sources. A repair station may adopt several training sources in the development of its training program. A combination of sources, methods, and the training needs assessment may be used by the repair station. Each source also has advantages and disadvantages depending on the repair station's training needs and size. Training sources can be classified into one of the following categories:

1) Original Equipment Manufacturer (OEM). An OEM usually provides both formal and informal types of courses depending on complexity of subject matter. However, there are usually prerequisites that the employee must meet prior to attending OEM courses, such as

previous mechanical/electronic background and experience. OEMs that have training departments normally also have the records showing the qualifications of their instructors. Instructor qualifications must be made available to the repair station prior to using the OEM services for training.

NOTE: Most OEM training is either a specific system, or an article or product of a system, and may not cover the interactivity of system or article to a product.

2) AMTS. AMTSs approved under part 147 can be a great source of training for repair stations. They have certified and qualified instructors; approved curriculum, syllabus, and course material; and the necessary equipment to provide hands-on skills training. While this is an excellent source of training, repair stations may need to supplement this training with their own indoctrination, initial, and recurrent training along with article and/or product training to a specific level. The repair station's training program should describe the use of this type of source and have a method (assessment) to determine what is most suitable for it and its personnel when it plans to use an AMTS.

NOTE: In some cases, repair stations may choose to use AMTSs, other repair stations, air carriers, or other entities to provide all or some of their training under contract. If this is the case, the repair station is still responsible for the administrative requirements, such as administration and currency of the training program, qualifications of instructors, ensuring the capability of personnel, maintaining training records, and coordinating approval and changes to its program with the CHDO, etc.

3) Other Repair Stations. Large part 145 repair stations, especially those that are EASA-accepted or that perform work for an air carrier or operator, may be an excellent source to provide training to smaller repair stations. Smaller repair stations may contract with these facilities for technical training as it pertains to its ratings and OpSpecs or maintenance human factors training. The utilization of this type of training may provide a cost savings to a smaller entity.

4) Federal or State Agencies. In many cases, Federal or State agencies provide training courses on aviation industry and related industry requirements: regulations, OSHA/EPA, shop safety, maintenance human factors, etc. When repair stations make this type of training part of their program, they should ensure that the training meets the needs and requirements of the repair station's capabilities.

5) Trade Associations. Many trade associations provide a variety of training sources, including seminars, product demonstrations, videos, computer-based instructions, equipment manufacturers, etc.

6) Other Sources. There are a variety of other training sources, which include, but are not limited to, independent seminars, product demonstrations, computer-based instructions, videos, and equipment manufacturers. All sources of information should be viewed as potential training sources. The repair station's training program should have a method of incorporating training opportunities to ensure that each employee is capable of performing assigned tasks.

7) Combination of Sources. A combination or all of these methods and sources may be appropriate to any given repair station.

C. Coordination Requirements. These tasks require coordination among the ASIs (maintenance and avionics). Regional coordination may be required.

3-4469 REFERENCES, FORMS, AND JOB AIDS.

A. References (current editions):

- Title 14 CFR parts 39, 43, 45, 65, 91, 121, 125, 129, 135, 145, and §§ 145.163 and 145.209(e);
- Title 49 CFR parts 170 through 175;
- AC 145-10, Repair Station Training Program; and
- AC 145-9, Guide for Developing and Evaluating Repair Station and Quality Control Manuals.

B. Forms:

- FAA Form 8060-4, Temporary Airman Certificate; and
- FAA Form 8610-2, Airman Certificate and/or Rating Application (if applicable).

C. Job Aids: Job Task Analyses (JTA): To be determined (TBD).

3-4470 ELECTRONIC MEDIA.

A. Use of Electronic Media. Air agencies that elect to use electronic media (CD-ROM, Local Area Network (LAN)-based, or Internet-based systems) must be allowed to use those systems without interference or extra procedures. It is incumbent upon the air agency to ensure that its CHDO is equipped for the media it selects to ensure that delays or other hindrances do not occur. To ensure a consistent approach to document and manual submissions and revisions, the requirement for signing the title page or revision page will be replaced by transmittal documents.

B. Use of Electronic Transmissions. Use of electronic transmissions (e.g., e-mail or fax responses) are an acceptable alternative to the cover letter if the repair station is equipped to transmit and receive any necessary attachments. This may include the use of electronic signatures. This method should be addressed in the repair station's procedures and be found acceptable to the FAA.

3-4471 EVALUATION AND APPROVAL OF A TRAINING PROGRAM AND REVISIONS.

A. AC 145-10.

1) AC 145-10 was developed for industry and provides information on the development of a repair station employee training program mandated under § 145.163. The AC provides an acceptable means, but not the only means, of showing compliance with

§ 145.163. Sample training programs described in appendices 1 and 2 of the AC represent structures that may be used by a repair station to develop its training program. Each person subject to part 145 should develop his or her own program tailored to individual operations. Because the AC contains only guidance on developing a training program, the word "should" used within the AC applies only to an entity that chooses to follow a particular suggestion without deviation.

2) AC 145-10 contains additional governmental, mandatory, and nonmandatory subjects not specifically required by § 145.163. The FAA is aware that the additional training outlined in the AC exceeds that required by § 145.163, but feels it necessary to provide these subject samples as a guide for a complete and comprehensive safety directed program. If the repair station chooses to develop a training program with the additional nonregulatory subjects, only those required by regulation would be subject to FAA approval. One means of developing this type of program by a repair station could include a separation of the regulatory and nonregulatory training subjects within their training manual.

3) Training in maintenance human factors is an essential part of an FAA-approved training program. The repair station's submitted training program and any revision thereto must include human factors elements. The FAA will not prescribe what human factors elements to include, but those elements should focus on aviation maintenance and safety-related issues. If human factors were not included, their exclusion would hinder the training program approval. (See AC 145-10 for additional information.)

B. Overview of the Process. Training program approval is predicated upon the repair station's ability to conform to the requirements of part 145, which is based on a repair station's specific capabilities. Depending on the complexity of the repair station's request and the availability of FAA resources, the approval process may be accomplished in only a few days, or the process may last a few months. Once the FAA approves the repair station training program, the repair station will begin to follow their approved procedure. The approval process applies to each repair station requesting approval of a new program or a revision to a currently approved program. Training programs submitted to the FAA for approval and found to be in conflict with regulatory requirements or to be inadequate must be appropriately modified by the repair station in accordance with the established repair station manual procedures. When appropriate, job aids have been developed to assist inspectors in the approval process. These job aids are discussed in paragraph 3-4473.

C. Procedures for Obtaining Training Program Approval.

1) The procedures for obtaining the training program approval normally begin with a meeting between the responsible training personnel of the repair station and the PI to discuss the scope of the training, the timing of the program document submittal, and other plans. This meeting will be an opportunity for the repair station to ask questions about the FAA process. Although this meeting is not required, it will provide an opportunity for both sides to understand the expectations of the other on a subject that is new to both. For a new repair station, this initial meeting is also an opportunity for the FAA to verify the intent of a new repair station with respect to:

- Ratings and other authorizations that will be sought,
- Maintenance function that will be contracted,
- Customers that include parts 121, 125, and 135 and/or certain part 129 operators,
- Personnel's current and required capabilities,
- Tools, equipment, and facilities,
- Overview of procedures and paperwork, and
- Proposed training and training sources.

2) The formal submittal of the training program should be made on or before the dates as defined in part 145.

3) The repair station may submit its program document as electronic media; however, it is the repair station's responsibility to ensure that the CHDO is equipped to review and store the submitted material in the media the repair station selects. Material submitted electronically must be accompanied by a transmittal document. The FAA approval will be similarly indicated by a transmittal document. These transmittal documents may be in the form of an e-mail, fax, or letter and may include the use of electronic signatures. As required by § 145.209(e), the repair station's manual must contain a description of the procedure it will use to submit changes to the training program. Similar procedures should be used to submit the program for initial approval. The repair station's accountable manager or someone acting on his or her behalf must sign the submittal.

4) The content of the initial training program submittal may be reviewed using the criteria and standards described in AC 145-10.

5) The FAA will review the proposed training program or revision and either approve it or prepare an explanation of why the program or revision cannot be approved as submitted. A letter or electronic transmittal of the FAA approval or rejection will be sent to the individual who has signed the submittal for the repair station.

6) If the FAA is not able to approve a submittal, the repair station should propose revisions that address FAA's concerns. When the repair station has adequately addressed all the concerns expressed in the FAA rejection, the program will be approved.

7) A change to the approved training program can be initiated by the repair station or by input from the PI. Any revision to the program document should be provided to the inspector for approval. The training program will be changing constantly, as it should, to accommodate changes to the repair station's work and/or customers, and in response to the ongoing assessment processes of the repair station and of the FAA. Correction of typographical errors and changes to phone numbers would be examples of changes not needing FAA approval. However, the repair station should send a corrected copy to the FAA.

8) The FAA does not determine instructor qualifications. However, if the FAA—through its surveillance process—finds that the qualifications or skills of an instructor are deficient, the repair station must correct any deficiency associated with that instructor and with its instructor selection and quality monitoring process.

9) The training program must have a process measurement element that verifies the effectiveness of the training. This provides a continuous improvement characteristic to the training program. Therefore, one of the key areas the FAA will monitor is the feedback process that takes evaluation results and adjusts training needs. The FAA might also independently assess training to evaluate the effectiveness, particularly where safety risk is relatively high.

10) Training standards are not set by the FAA but the PI should verify that the repair station has an adequate training program to meet regulatory requirements. If, in the course of normal surveillance or in the investigation of an unplanned and undesirable event, an FAA inspector discovers inadequate training, he or she will notify the repair station that a training deficiency has been identified and that a change must be made. The FAA will give the repair station a reasonable time to make the change as long as steps are taken by the repair station to ensure that no unairworthy product results from the training deficiency. When the repair station develops a modification to the training program to correct the deficiency, the FAA will review it and either approve the revised program or indicate that additional changes are still required.

11) If the program or program revision is submitted in an electronic format, the FAA inspector will indicate approval or denial with an e-mail message or letter. If approval of the submittal is denied, the FAA e-mail message or letter will include an explanation of the denial.

12) The training program revision process may be initiated by either the repair station or the FAA as follows:

a) Repair station-initiated: The operator informs the FAA that it is planning to establish a new training program element/component or to change an existing program.

b) FAA-initiated: The FAA informs an operator that revisions to its training program are required based on recently acquired information relative to training techniques, aviation technology, aircraft maintenance history, or regulatory changes.

13) The training program approval/rejection process may be initiated by the FAA, as follows:

a) When review of the training program or revision has shown compliance with the regulation and the form and manner prescribed in this chapter, issue a letter of approval. (See Figure 3-155, Example Letter of Approval.)

b) When review for approval of the training program or revision is rejected, issue a letter of rejection, with an explanation of discrepancies; the letter of approval format may be used. (See Figure 3-156, Example Rejection Explanation Statement.)

14) A repair station training program must meet the requirements of § 145.163. A repair station’s training sources, training methods, curriculum, training courses, etc., are not subject to FAA approval. The PI only determines that the elements of a repair station training program are met, which ensures that the repair station trains to meet its capabilities and customer-specific requirements. The training program content will be evaluated for compliance of the rule. The repair station shoulders the responsibility that its training program sources, methods, curriculum, and courses meet the requirements of the rule and its customers.

D. Evaluating the Training Program. The elements for training evaluation listed in Table 3-123, Elements for Training Evaluation, may also be used as an inspector tool in determining that a repair station's training program contains the elements necessary to sustain the repair station's capabilities.

1) At a repair station to which more than one discipline of inspector is assigned, inspectors should work together during the review and approval of the training program. Even a repair station assigned only one PI may benefit from a peer review using their expertise to ensure that programs are in accordance with the regulations.

2) The evaluation begins when the repair station starts training under the approved training program. The PI should monitor training conducted under program approval. Whenever possible, the first session of training conducted should be monitored by the PI or a qualified inspector. An FAA inspector does not need to observe every training session. A sufficient sampling of the training sessions, however, should be observed as a basis for a realistic evaluation.

3) During the evaluation, the repair station must demonstrate the ability to effectively train their personnel. Any deficiency identified during the evaluation of the training program must be discussed with the repair station. The repair station will make the necessary changes to correct the deficiency to its training program.

E. Elements Available for Evaluating Training. The PI must develop a plan for systematically evaluating training given under the approved training program. There are five elements that can be evaluated when assessing the overall effectiveness of training programs. These five elements are: course outlines, courseware, training methods and training environment, testing and checking, and surveillance and investigation of repair station activities. These elements are interrelated; however, each can be separately evaluated.

1) Before evaluating a training program, an inspector must become familiar with the contents of the training courses to be evaluated. This preparation is essential if an inspector is to determine if a repair station has developed an effective course of instruction.

2) Direct examination of courseware includes reviewing materials such as lesson plans, workbooks, etc. Courseware is usually the training program element that is most adaptable to revision or refinement. Inspectors must review at least a sampling of the courseware.

3) Direct observation of instructional delivery includes surveillance of training methods, such as instructor lectures, CBT presentations, and OJT instruction. Effective learning can only occur when an instructor is organized, prepared, and properly uses the courseware and various training aids. The inspector must determine if the instructional delivery is consistent with the courseware. For example, the inspector should note if the instructor teaches the topics specified in the lesson plan. Training aids and devices should function as intended during the instructional delivery. In addition, during training, the inspector should be sensitive to the type of questions being asked by employees and should identify the reasons for any excessive repetition. These conditions may indicate ineffective training method or courseware. The inspector must also determine if the instructional environment is conducive to learning. Distractions that

adversely affect delivery, such as excessive temperatures, extraneous noises, poor lighting, and cramped classrooms or workspaces, are deficiencies because they interfere with learning.

4) Direct observation of testing and checking is an effective method for determining whether learning has occurred. Examining the results of tests, such as oral or written tests, or OJT, provides a quantifiable method for measuring training effectiveness. The PI must examine and determine the causal factors of significant failure trends.

5) Direct observation of training and checking in progress is an effective method of evaluating training. Sometimes the opportunity for direct observation, however, will be limited. In such cases, the PI will have to rely more on his evaluation of other sources of information such as reports of surveillance and investigations. Results of inspection reports, incident or accident reports, enforcement actions, and other relevant information about the repair stations should be evaluated by the PI for training effectiveness. For example, repeated reports of deficiencies, such as the inability to grasp troubleshooting techniques or incorrect use of technical data or RSM procedures, may be traceable to a lack of specific training or ineffective training. Such information may provide indications that revisions or refinements are necessary for a training course and/or training course modules.

Figure 3-155. Example Letter of Approval

ABC Repair Station
Accountable Manager
417 Oakton Boulevard
Enid, OK 78154

Dear Mr. Townsend:

Training program/revision approval is granted to ABC Repair Station's training program, dated May 21, 2006. The effective date of approval is May 21, 2006. ABC Repair Station may continue to train in accordance with this program until ABC Repair Station revises its program in accordance with § 145.163(d) and obtains FAA approval in accordance with § 145.209(e).

Figure 3-156. Example Rejection Explanation Statement

This letter is in response to your request for approval of Revision 2 to ABC Repair Station's training program/revision, dated March 2, 2006. Your request for approval of Revision 2 is rejected for the following reason: Revision 2 deletes training previously given on Cessna 182 aircraft and does not provide any identifiable instruction to your mechanics, repairmen, or technicians. Presently there is not another course of training for ABC Repair Station containing adequate information on Cessna 182 aircraft maintenance.

Table 3-123. Elements for Training Evaluation

Course Outlines	Course outlines contain the specific training course modules and the amount of time allocated for the course. The course modules must be consistent with the regulatory requirements and safe maintenance practices. This element requires direct examination.
Courseware	Courseware converts the syllabus outline information into usable instructional material. Courseware must be consistent with the syllabus outline and be organized to permit an effective training method. It is readily adaptable to adjustments and refinement by the repair station. This element usually requires direct examination.
Training Methods and Training Environment	Training methods are used to convey information to the employee. Effective learning is maximized if the training method adheres to and properly uses the courseware. The training environment should be conducive to effective learning. This element requires direct observation.
Testing and Checking	Testing and checking is a method for determining whether learning has occurred. Testing and checking standards are used to determine that a desired level of knowledge and skill has been acquired. Testing and checking also measures the effectiveness of courseware and training method. This element requires direct observation. It can be supplemented by examining the repair station's records of test and checks.
Surveillance and Investigation of Repair Station Activities	Surveillance and investigations produce information about a repair station's overall performance. A high rate of satisfactory performance usually indicates a strong, effective training program. Repeated unsatisfactory performances can often be traced to deficiencies in a training program. This element requires the examination and analysis of surveillance and investigative reports.

3-4472 INSPECTOR EVALUATION GUIDE FOR THE DEVELOPMENT AND IMPLEMENTATION OF A PART 145 REPAIR STATION'S TRAINING PROGRAM. The training program development process includes:

A. Needs Assessment/Analysis. The purpose of this phase is to determine the goals and objectives of the training.

B. Design Phase. This phase serves to refine training goals and objectives and instructional and evaluation strategies.

C. Course of Study. The course categories can be organized into a course outline, specific course, or course modules.

D. Prototype. This phase includes the delivery of training materials, the training of instructors, and a dry run of the sections in the program to verify proper flow of the material.

E. Validation. At this stage, the training can be delivered in a typical training environment. Meetings should be held to discuss and evaluate the prototype to fine-tune the program.

F. Adoption. The training program is scheduled and formally announced.

G. Implementation. The training is provided at this stage.

H. Employee Evaluation. It is important to evaluate the employee's comprehension of all course material.

I. Program Measurement. Program developers should identify valid and reliable processes to measure training program effectiveness.

J. Feedback. This phase allows the product to influence the training program in a constant cycle of evaluation and improvement, such as through class and/or instructor evaluations.

3-4473 ADDITIONAL TRAINING PROGRAM STRUCTURE GUIDES.

A. Training Course Outline (TCO). The repair station as appropriate can determine its training requirements. Each course/course module should include the following information:

1) Course Prerequisites. What employees must have completed before they are eligible for the course.

2) Training Subject. What knowledge is to be imparted by the course and the course content.

3) Course Duration. May be specified in hours.

4) Training Methods. The method for the training course should be specified. There are varieties of methods to choose from based on what is most appropriate for the course in question. They range from OJT to formal classroom courses.

5) Completion Standards. There should be a description of what has to be accomplished for the employee to complete the course/syllabus. Examples of this could be a knowledge or practical test with a passing grade, a submitted project or demonstration of skill, or a certificate of completion.

B. Qualifications and Authorizations. The repair station should describe the training requirements for various qualification levels of its employees depending on their job function as well as individual authorizations. For example:

- RII (if applicable),
- Inspector levels,
- Technician skill levels, and
- Specialized services.

C. Instructor Selection. The repair station's training program should include criteria for instructors and a description of how instructors are selected. In cases where the sources of training are external to the repair station, it may not be possible to select instructors, but the quality of instruction should be monitored to ensure the quality of training employees receive is adequate.

D. Planning and Scheduling. Most training should be scheduled in advance to ensure adequate preparation time and to maintain a continuity of training for all employees. Management should plan training based on current requirements, but the plan should be adaptable to changing needs, such as those of a new customer or with the acquisition of new equipment. Occasionally, remedial training will be required for employees stemming from the results of an audit or unacceptable skill demonstration. This type of training cannot be scheduled in advance and may have to be accomplished relatively quickly. Therefore, the training schedule should be sufficiently flexible to accommodate such circumstances.

E. Training Records. The repair station's training program should specify where employee training records are maintained and for how long (at least 2 years). Many repair stations will elect to keep employee training record summaries in a computer system. If records are maintained electronically, the repair station should also maintain a physical file to keep important documents such as FAA certificates, diplomas, and proofs of course completions. The training program should also specify the procedures by which records are maintained as well as what QC will be conducted over those records. At a minimum the training record should include:

- Employee's name and signature,
- Dates and duration of training,
- Type of training,
- Location of training,
- Name and signature of instructor, and
- Test results (if applicable).

F. Training Facility. A description of the repair station training facility/facilities may be included in the repair station's training program. If the facility has a dedicated classroom, it should be adequately lighted, ventilated, and equipped. Alternatively, an offsite facility could be used, or the facility may be the repair station's work area.

G. QC.

1) Each repair station should discuss in their training program how they intend to monitor the quality of the training they provide to their employees. There should be a formalized effort to review the effectiveness of the training program, although this may be through an external means (such as an audit accomplished by a department other than that training). At the very least, employees should be asked to fill out course evaluation forms. These should be compiled and analyzed to identify either best practices or deficiencies in instructors or training materials.

2) Supervisors may also elect to attend certain classes to enhance the QC process, although this may not be easy for classes provided by external organizations. Audits of external training providers may be scheduled as an alternative. If this is not possible or desirable, some interviewing of returning course attendees can be accomplished to obtain more detailed information than would be possible through a written questionnaire.

H. Definitions and Abbreviations. The repair station training program should define all terms and acronyms for the sake of clarity and to avoid confusion in cases where acronyms are company specific and may have different meanings among different facilities.

Figure 3-157. Training Program Content Analysis

Repair Station Certificate Number:				
Date Completed:				
A.	**Evaluate Training Program.**	**YES**	**NO**	**N/A**
1.	Has a systematic analysis been completed to identify the tasks performed by the trainee?			
2.	Does the task list appear complete, based on current roles and responsibilities, facility mission, and ongoing activities?			
3.	Have the required knowledge, skills, and abilities to perform the identified tasks been defined?			
4.	Are the task list and required knowledge, skills, and abilities reviewed and updated periodically to reflect changes in procedures, facility systems/equipment, job scope, and advances in technology?			
5.	Have knowledge, skills, and abilities to be enhanced through training been selected?			
6.	Have training settings including classroom, laboratory, or "on-the-job" training (OJT) been selected appropriately for the selected knowledge, skills, and abilities?			
7.	Has a logical sequence for training that builds upon a growing base of knowledge, skills, and abilities been defined?			
8.	Have entry-level requirements been specified for employees?			
9.	Do entry-level requirements include physical abilities, educational, technical, and experience requirements?			
B.	**Interview Employees.**			
10.	Does the training program improve the ability of the employee to perform his or her job?			
11.	Are there elements of employee job or specific tasks where they are not trained, but feel that training is needed?			
12.	Are training settings appropriate for the material covered? (Classroom training covers required knowledge, application training addresses skills, and OJT strengthens abilities to perform tasks.)			
13.	Has training been sequenced properly?			
C.	**Interview Supervisors.**			
14.	Are personnel able to perform their jobs more effectively following training?			
15.	Are there essential tasks or elements of employees' jobs that are not addressed in current training?			
16.	Does a mechanism exist to inform the training organization of changes in job responsibilities, in work practices, and in equipment so that job/task analyses are updated?			
COMMENTS:				

Figure 3-158. ASI Checklist To Facilitate Training Program Approval

This checklist is to be used as a minimum standard to assist the aviation safety inspector (ASI) in establishing a basis for approval of the training program required by 14 CFR part 145, § 145.163. The elements identified on the checklist are derived from regulatory requirements and accepted industry practices. The checklist may be altered or modified to fit a wide range of applications in order to attain an acceptable comfort level for the approving inspector. It is recommended that this form or a similar form used by the approving official be retained by the certificate-holding district office (CHDO).

	Repair Station Certificate Number:	**YES**	**NO**
1.	Is the manual identified with company name, address, certificate number, and other contact information appropriate to this manual (phone, fax, e-mail, etc.)?		
2.	Does the manual have a control system?		
3.	Does the control system include a distribution list identifying a particular manual to a person or location?		
4.	Does the manual contain an adequate revision system to allow an easy determination of currency and person responsible for inserting the revision?		
5.	Is there a procedure for submitting revisions to the CHDO for approval and retaining records for a 2-year minimum?		
6.	Does the training program have provisions for initial and recurrent training?		
7.	Does the training program adequately identify task functions for the performance of maintenance or inspection functions?		
8.	Does the training program adequately ensure that each employee performing a maintenance or inspection function is capable of performing the assigned task?		
9.	Are individual training requirements identified and documented in an acceptable manner?		
10.	Is there a method of measure or test to ensure the training is effective?		
11.	Has the advisory circular and handbook guidance been reviewed to ensure that issues particular to this training program have been addressed?		
12.	Does the training manual qualify for FAA approval?		
COMMENTS:			
Signature:	**Date:**		

3-4474 TASK OUTCOMES.

A. Complete the PTRS Record.

B. Complete the Task. Completion of this task will result in one of the following actions:

1) Approval/denial of the training program/revision by doing the following:

a) Place "Approved" with the date, office identification, and signature of the inspector on the List of Effective Pages (LEP);

b) File office copy of training program/revision as follows:

- If it is an original training program, file a copy of the entire training program in the certificate holder/applicant's office file; and
- If it is a revision, remove the affected pages, insert the revised pages in the current training program, and update the manual control system.

c) Return the training program/revision to the applicant with a letter.

2) Reject the training program/revision by doing the following:

- Return all copies to the applicant with letter explaining discrepancies; and
- Explain to the applicant that the manual must be corrected and resubmitted in order to proceed with the certification or revision process, file all supporting paperwork in the certificate holder/applicant's office file, and update the Enhanced Vital Information Database (eVID).

3-4475 FUTURE ACTIVITIES. Perform followup and surveillance inspections as required. This section is not all inclusive; repair station size and capabilities may determine which elements are applicable.

RESERVED. Paragraphs 3-4476 through 3-4490.

VOLUME 3 GENERAL TECHNICAL ADMINISTRATION

CHAPTER 58 MANGEMENT OF AVIATION FATIGUE

Section 1 Review and Acceptance of Fatigue Risk Management Plans (FRMP)

3-4623 GENERAL. On August 1, 2010, the President signed Public Law (PL) 111-216, Airline Safety and Federal Aviation Administration Extension Act of 2010 (the Act), which focuses on improving aviation safety. Section 212(b) of the Act requires each air carrier conducting operations under Title 14 of the Code of Federal Regulations (14 CFR) part 121 to develop, implement, and maintain a Fatigue Risk Management Plan (FRMP). An FRMP is an air carrier's management plan outlining policies and procedures for reducing the potential effects of day-to-day flightcrew member fatigue and improving flightcrew member alertness. The FRMP should be tailored to the air carrier's specific kind and type of operations. For the purpose of this section, the term "operations" means the kind of operations (e.g., domestic, flag, and supplemental) and the type of operations (e.g., multiple segments, continuous duty overnights, night vs. day operations, cargo vs. passenger operations, short-haul vs. long-haul, etc.).

3-4624 STATUTORY REQUIREMENT. PL 111-216, § 212(b) requires each air carrier conducting operations under part 121 to submit its FRMP to the Federal Aviation Administration (FAA) for review and acceptance. Each air carrier must update its FRMP at least once every 24 calendar-months and submit it to the FAA for review and acceptance. The FAA will issue operations specification (OpSpec) A317, Acceptance of a Fatigue Risk Management Plan (FRMP), to indicate acceptance of the air carrier's FRMP.

3-4625 SUBMITTAL PROCESS. Each part 121 air carrier must develop its FRMP in a manner acceptable to the FAA. Following initial acceptance, each part 121 air carrier must submit an update to its FRMP to the FAA every 24 calendar-months. The air carrier will electronically submit the FRMP, along with a completed FRMP Checklist (see Figure 3-170), to the Air Transportation Division (AFS-200) via email at AFS-200-FRMP-FRMS@faa.gov. The air carrier will also provide its principal operations inspector (POI) with a copy of the FRMP. AFS-200 will acknowledge receipt of the FRMP to the sender via email and copy the respective POI and regional Flight Standards division (RFSD).

3-4626 REVIEW PROCESS. AFS-200 will review the air carrier's FRMP to ensure the plan addresses each required element. The air carrier may elect to incorporate more information in its FRMP than currently outlined in the FRMP elements. However, this information may not conflict with the required FRMP elements.

A. Developing and Submitting an FRMP. The air carrier should develop an FRMP so it is easily understood, relevant to its operations, and easily updated. The air carrier should submit its FRMP with a completed FRMP Checklist (see Figure 3-170), which identifies the location of the applicable policies and procedures within the applicant's FRMP.

B. FAA Review of an FRMP. AFS-200 personnel will review the FRMP in two steps: preliminary review and in-depth review.

1) Preliminary Review. Upon receipt of the proposed FRMP, AFS-200 personnel will perform a preliminary review to ensure each required component has been addressed. If AFS-200 determines that any of the FRMP components are missing, AFS-200 will return the FRMP to the air carrier within 10 business days from receipt, along with a letter outlining which components were not addressed. If an FRMP is returned to the air carrier, the FAA will terminate the review process until a new FRMP is submitted.

2) In-Depth Review. Once AFS-200 determines that each required component has been addressed in the FRMP, AFS-200 will perform a detailed analysis of the FRMP to determine if the content is sufficient and applicable to the air carrier's operations. If AFS-200 determines the air carrier's FRMP is unacceptable, AFS-200 will return the FRMP to the air carrier with suggested modifications to make the FRMP acceptable. If an FRMP is returned to the air carrier, the FAA will terminate the review process until a new FRMP is submitted. Once AFS-200 determines that the FRMP is acceptable, the acceptance process commences.

3-4627 ACCEPTANCE PROCESS.

A. Original Acceptance of FRMP. Once AFS-200 has determined the FRMP is acceptable, AFS-200 will send a memo to the POI, through the respective RFSD, authorizing the POI to issue OpSpec A317 to the air carrier. The memo will include any nonstandard text to be included in the OpSpec, as appropriate. The POI is responsible for issuing OpSpec A317 upon receiving authorization from AFS-200. The POI must incorporate any nonstandard text into the OpSpec as specified in the authorization memo. The maximum duration of OpSpec A317 is 24 calendar-months from the date of issuance and will be reflected on the air carrier's OpSpec A317.

B. FRMP Updates. PL 111-216 requires each part 121 air carrier to submit an updated FRMP to AFS-200 for review and acceptance every 24 calendar-months. Additionally, as the air carrier's operations change, the air carrier's FRMP must be amended to include the appropriate fatigue mitigation strategies necessary to reduce the effects of fatigue and improve flightcrew members' alertness in that operation.

C. Amendment of an Accepted FRMP. The air carrier may amend, or the FAA may require an amendment to, its FRMP. When the FAA requires an amendment to an air carrier's FRMP, the FAA will advise the air carrier of the recommended modification necessary. Regardless of whether the amendment is driven by the air carrier or the FAA, the air carrier must submit their amended FRMP to AFS-200 for review and acceptance.

D. Reissuance of OpSpec A317. Each time an air carrier's FRMP is reviewed and accepted by AFS-200, the FAA will reissue OpSpec A317 to include the changes and a new expiration date of 24 calendar-months from the date of issuance.

3-4628 DIFFERENCES BETWEEN AN FRMP AND A FATIGUE RISK MANAGEMENT SYSTEM (FRMS). Distinct differences exist between an FRMP and FRMS. This guidance specifically applies to procedures for reviewing and accepting an FRMP. While the FRMP provides a basic foundation for the development of an FRMS, the contents of an FRMP do not meet all the requirements for an FRMS. Unlike an FRMP, an FRMS is an optional

fatigue mitigation tool that minimizes the acute and chronic sources of fatigue and the resultant effects of fatigue. An FRMS is a data-driven and scientifically based process that allows for continuous monitoring and management of safety risks associated with fatigue-related error (see the current edition of Advisory Circular (AC) 120-103, Fatigue Risk Management Systems for Aviation Safety).

3-4629 FRMP STRUCTURE. An FRMP framework is composed of individual components. The components interact to achieve the objective of the FRMP. Each component may have multiple elements. The interaction of the individual elements provides a method to evaluate the effectiveness of the overall plan.

3-4630 FRMP COMPONENTS. The components of an FRMP provide the organization with the appropriate authority, policies and procedures, controls, reporting vehicles, education resources, monitoring, and performance evaluation tools necessary for the FRMP to be effective. The following components must be addressed in each FRMP by the respective part 121 air carrier:

- Senior level management commitment to reducing fatigue and improving flightcrew alertness.
- FRMP scope and fatigue management policies and procedures.
- Current flight time and duty period limitations.
- Rest scheme consistent with limitations.
- Fatigue reporting policy and system.
- Fatigue education and awareness training program.
- Fatigue incident reporting process.
- Fatigue monitoring system for monitoring flightcrew fatigue.
- FRMP evaluation process.

A. Senior Level Management Commitment. A vital component of any FRMP is a written commitment from senior level management to manage and mitigate fatigue during day-to-day operations. This written commitment facilitates corporate buy-in among all employees directly responsible for safety of flight issues including flightcrew members, dispatchers, individuals involved in the scheduling of flightcrew members, individuals involved in operational control, and any employee providing management oversight of those areas. Employees are more likely to report fatigue-related issues, knowing that senior level management is an advocate for fatigue mitigation.

B. FRMP Scope and Policies and Procedures. The FRMP should define the scope and objectives of the plan and include policies and procedures to implement it. A policy is based on a proactive objective, while a procedure is the method by which the objective will be met using the resources available to the air carrier.

C. Flight Time, Duty Limitations, and Rest Schemes. The air carrier must establish flight time, duty limitations, and a rest scheme at least as restrictive as the requirements of the regulations. If fatigue reporting or monitoring yield data that do not support the limitations or the rest scheme, the FRMP polices and procedures should be amended to include new fatigue

mitigations, which may result in changes to the air carrier's flight and duty limitations and/or rest scheme.

D. Fatigue Reporting Policy and System. A fatigue reporting system provides the means to subjectively report fatigue-related occurrences. Fatigue reporting supports the evaluation of the effectiveness of the FRMP. To be effective, the fatigue reporting policy must encourage employees to report fatigue-related occurrences without fear of reprisal. The air carrier's fatigue reporting system should encourage voluntary disclosure, which has proven to be an excellent vehicle for conveying safety information to those individuals who have the authority to change policy. Information collected from fatigue reports should serve as the trigger to evaluate the overall effectiveness of the FRMP and drive changes to the policies and procedures and associated education and awareness training program. An effective fatigue reporting system also contributes to an air carrier's safety culture.

E. Fatigue Education and Awareness Training Program. The training program should provide employees with information on the effects of fatigue on the safety of flight, causes of fatigue, and countermeasures to prevent or mitigate fatigue. The training program should also cover the FRMP policies and procedures. As data are collected through the fatigue reporting and monitoring processes, the elements of the education and awareness program may serve as useful tools to amend polices and procedures. The current editions of AC 120-100, Basics of Aviation Fatigue, and AC 120-103 provide background material to develop a training program. The training program must be accomplished annually by each flightcrew member, and may be incorporated into the air carrier's recurrent training program.

F. Fatigue Incident Reporting Process. The air carrier's fatigue incident reporting process should clearly state how the air carrier will collect and respond to the data received from these reports. The report should contain sufficient details to determine the root cause of a fatigue occurrence. The reporting system is vital in evaluating the overall effectiveness of the FRMP; driving changes to existing FRMP policies and procedures; effecting changes to existing flight, duty, and rest schemes; and potentially driving changes to the fatigue education and awareness training program. Other data sources that may be considered for documenting fatigue occurrences include procedural errors, flightcrew member deviations, flight exceedances, the Aviation Safety Action Program (ASAP), and flight operations quality assurance (FOQA) reports.

G. Fatigue Monitoring System. The FRMP should outline a system for monitoring flightcrew member fatigue in day-to-day operations. The FRMP should contain operational procedures to follow when one identifies or suspects fatigue risk in oneself or others. The FRMP should define how an event is evaluated for potential fatigue involvement as well as define the methodology used for conducting a detailed Root Cause Analysis (RCA) of the event. The FRMP should outline a process to capture all relevant information, such as the schedule leading up to the fatigue event, the actions of the employee to obtain rest, subjective and objective evidence of fatigue, environmental conditions that may have contributed to fatigue, specific actions related to the incident, and what, if any, communications occurred prior to and during the event.

H. FRMP Evaluation Process. The FRMP must outline a systematic process for evaluating the effectiveness of the organization's FRMP. The FRMP must define a method to continually assess the effectiveness of the FRMP, including the effectiveness of the FRMP to improve alertness and to mitigate performance errors. The FRMP must have a process to amend the air carrier's FRMP when it is determined that a policy or procedure is no longer effective in managing fatigue.

3-4631 FRMP ELEMENTS. The FRMP policies and procedures should focus on the air carrier's specific kind of operations (e.g., domestic, flag, and supplemental) and the type of operations (e.g., continuous duty overnights, night versus day operations, cargo versus passenger operations, short-haul versus long-haul, etc.). The following are the individual elements of each FRMP component.

A. Senior Level Management Commitment.

1) Incorporate a letter from senior level management acknowledging their commitment to managing and mitigating fatigue and improving flightcrew alertness.

2) Establish and incorporate the air carrier's concept of a corporate "just culture" or "safety culture."

3) Establish and incorporate an open communication policy for reporting fatigue-related issues.

4) Establish and incorporate a fatigue reporting system.

5) Define how to evaluate an event for potential fatigue involvement and an overview of how to conduct a detailed RCA.

6) Provide for protection of privacy and methods to protect the employee from adverse actions that would discourage fatigue reporting.

B. FRMP Policies and Procedures.

1) Clearly describe each element of the FRMP.

2) Define the scope and objectives of the air carrier's FRMP.

3) Identify the kind of operations and the type of operations conducted by the air carrier.

4) Incorporate the air carrier's policies and procedures to mitigate and manage the effects of fatigue and improve flightcrew alertness.

5) Define safety objectives and expectations of the air carrier's FRMP.

C. Current Flight Time and Duty Period Limitations.

1) Incorporate the flight time and duty limits used by the air carrier based upon the kind of operations and type of operations.

2) The limitations may be those contained in the regulations or the limitations in a collective bargaining agreement (CBA).

D. Develop a Rest Scheme Consistent with such Limitations that Enables Fatigue Mitigation.

1) Develop and incorporate a rest scheme to improve pilot alertness consistent with the type and kinds of operations conducted by the air carrier.

2) Include rest periods of adequate duration to mitigate the effects of fatigue due to scheduled vs. unscheduled operations, domestic and international operations, day vs. night operations, and operations through multiple time zones.

3) Develop and incorporate a rest scheme for those pilots assigned or scheduled for reserve assignments.

4) For those air carriers that conduct operations with augmented flightcrew, develop a rest scheme to mitigate fatigue and improve pilot alertness.

E. Fatigue Reporting Policy and System.

1) A fatigue reporting system permits crewmembers and other employees to report subjective fatigue and request relief from duties because of fatigue, as needed.

2) Develop and implement a fatigue reporting system that encourages the reporting of fatigue-related events as part of the overall FRMP.

3) Fatigue reports contain valuable data, especially when coupled with objective data about conditions which may contribute to fatigue, such as the work schedule prior to the report. Fatigue reports should be data sources for use by the air carrier to develop new and amended fatigue mitigation strategies.

F. Fatigue Education and Awareness Training Program.

1) The training program should contain:

a) Review of FAA flight, duty, and rest regulatory requirements.

b) Content of the FRMP, including policies and procedures, and the responsibilities of management and employees to mitigate or manage the effects of fatigue and improve pilot flight deck alertness.

c) Basics of fatigue, including sleep fundamentals and circadian rhythms.

d) Causes and awareness of fatigue.

e) Effects of fatigue on pilot performance.

f) Fatigue countermeasures, prevention, and mitigation.

g) Influence of lifestyle, including nutrition, exercise, and family life on fatigue.

h) Familiarity with sleep disorders.

i) Effects of fatigue as a result of commuting.

j) Pilot responsibility for ensuring adequate rest and fitness for duty.

k) Effects of operating through multiple time zones.

l) Operational procedures to follow when one identifies, or suspects, fatigue risk in oneself or others.

m) Lessons learned regarding the effects of fatigue and mitigation initiatives relative to the air carrier's operation.

2) The training program should include a method to continually assess the effectiveness of the program.

G. Fatigue Incident Reporting Process to Mitigate Performance Errors.

1) Develop and implement a system for pilots to report performance errors attributable to fatigue, similar to crew reports that can serve as a mechanism for obtaining all relevant data regarding fatigue contributions to an incident.

2) Develop procedures to review and respond to reports of events that may be attributable wholly or in part to fatigue. These reports can also be data sources for use by the air carrier to develop new and amended fatigue mitigation strategies.

3) Other sources of data on the effects of fatigue include reports of procedural errors, pilot deviations (PD), flight exceedances, ASAP, or Aviation Safety Reporting System (ASRS) reports and FOQA data. These data sources may provide objective documentation of fatigue.

H. Fatigue Monitoring System.

1) Develop a process to capture fatigue-related information in event reports, such as the work schedule prior to the incident, the actions of the employee to obtain rest, subjective and objective evidence of fatigue, environmental conditions that may have exaggerated or contributed to fatigue, relevant health or medical conditions, specific actions related to the event, and communications prior to and during the event.

2) The policy must protect privacy and protect the employee from adverse actions that would discourage reports of fatigue. The air carrier will develop and implement a process for reviewing reports and the actions taken to reduce flightcrew fatigue exposure.

3) The policy should define how an event is evaluated for potential fatigue involvement as well as how to conduct a detailed RCA.

4) Incorporate operational procedures to follow when one identifies, or suspects, fatigue risk in oneself or others.

I. FRMP Evaluation Process.

1) Develop and implement a systematic process for evaluating the effectiveness of the air carrier's FRMP.

2) Develop and implement a method to continually assess the effectiveness of the FRMP, including the effectiveness of the FRMP to improve alertness and to mitigate performance errors.

3) Develop and implement a process to amend the FRMP, as appropriate, when it is determined that the FRMP policies and procedures are no longer effective in managing fatigue events.

3-4632 REFERENCES, FORMS, AND JOB AIDS.

A. References (current editions):

- AC 120-59, Air Carrier Internal Evaluation Programs.
- AC 120-66, Aviation Safety Action Program (ASAP).
- AC 120-82, Flight Operational Quality Assurance.
- AC 120-92, Safety Management Systems for Aviation Service Providers.
- AC 120-100, Basics of Aviation Fatigue.
- AC 120-103, Fatigue Risk Management Systems for Aviation Safety.
- Safety Alert for Operators (SAFO) 09014, Concepts for Fatigue Countermeasures in Part 121 and 135 Short-Haul Operations.
- Information for Operators (InFO) 10017, Fatigue Risk Management Plans (FRMP) for Part 121 Air Carriers—Part Two.
- InFO 10017SUP, Fatigue Risk Management Plans (FRMP) for Part 121 Air Carriers—Part Two.
- Figure 3-170, Fatigue Risk Management Plan Checklist.

B. Forms. None.

C. Job Aids. Figure 3-171, Fatigue Risk Management Plan Review and Acceptance Job Aid.

Figure 3-170. Fatigue Risk Management Plan Checklist

Air Carrier:		Date:
Air Carrier Certificate Number:		
	ELEMENT AND TASK	**REFERENCED IN FATIGUE RISK MANAGEMENT PLAN (FRMP)**
A.	**Senior Level Management Commitment to Reducing Fatigue and Improving Flightcrew Alertness.**	
	i. Does the FRMP have a letter from senior level management describing their acknowledgement and commitment to managing and mitigating fatigue and improving flightcrew alertness?	
	ii. Does the corporate policy define how an event is evaluated for potential fatigue involvement as well as define an overview of the methodology for conducting a detailed Root Cause Analysis (RCA)?	
	iii. Does the FRMP define "Just Culture" or "Safety Culture?"	
	iv. Does the FRMP have an open communications policy for reporting fatigue-related issues?	
	v. Does the FRMP have a fatigue reporting system?	
B.	**FRMP Scope and the Organization's Fatigue Management Policy and Procedures.**	
	i. Are the scope and objectives of the organization's FRMP clearly defined?	
	ii. Are the organization's policies and procedures adequate to mitigate and manage the effects of fatigue and improve flightcrew alertness?	
	iii. Is each element of the FRMP clearly defined?	
	iv. Are the organization's FRMP safety objectives and expectations clearly defined?	
C.	**Flight Time and Duty Period Limitations.**	
	i. Does the FRMP contain the current flight time and duty limits that will be used by the organization based upon their kind of operations? These limitations can be either the CFR limitations or the hours of service limitations observed in the pilot's collective bargaining agreement (CBA).	
D.	**Rest Scheme Consistent with such Limitations that Enable Fatigue Mitigation.**	
	i. Does the FRMP incorporate the organization's rest scheme consistent with the kinds of operations and the type of operations conducted by the air carrier?	

Figure 3-170. Fatigue Risk Management Plan Checklist (Continued)

	ii. Does the rest scheme consider the length of rest periods required to mitigate the effects of fatigue for scheduled vs. unscheduled operations, domestic and international operations, day vs. night operations, and operations through multiple time zones, etc.?	
	iii. Is there a rest scheme for those flightcrew members assigned or scheduled for reserve assignments?	
	iv. If applicable, is there a rest scheme for augmented flightcrew operations to mitigate fatigue and improve flightcrew member alertness?	
E.	**Fatigue Reporting Policy.**	
	i. Does the FRMP have a fatigue reporting system that encourages the reporting of fatigue related events as part of the overall FRMP?	
	ii. Does the fatigue reporting system permit crewmembers and other employees to report subjective fatigue and, from time to time, request relief from duties because of chronic fatigue?	
	iii. Are there provisions in the FRMP for these reports being used as data sources by the organization in developing new and amended fatigue mitigation strategies?	
F.	**Fatigue Education and Awareness Training Program.**	
	i. The education and awareness training program should be a comprehensive educational program essential for providing the foundation in the management and mitigation of fatigue.	
	ii. The frequency of the Fatigue Education and Awareness Training Program is 12 calendar-months.	
	iii. A review of Federal Aviation Administration (FAA) flight, duty, and rest regulatory requirements.	
	iv. Content of the FRMP program, including fatigue-related policies and procedures, and the responsibilities of management and employees to mitigate or manage the effects of fatigue and improve flightcrew member flight deck alertness.	
	v. The basics of fatigue, including sleep fundamentals and circadian rhythms.	
	vi. The causes and awareness of fatigue.	
	vii. The effects of fatigue relative to flightcrew member performance.	
	viii. Fatigue countermeasures, prevention, and mitigation.	
	ix. The influence of lifestyle, including nutrition, exercise, and family life on fatigue.	
	x. Familiarity with sleep disorders.	
	xi. The effects of fatigue as a result of commuting.	

Figure 3-170. Fatigue Risk Management Plan Checklist (Continued)

	xii. Flightcrew member responsibility for ensuring adequate rest and fitness for duty.	
	xiii. The effects of operating through multiple time zones.	
	xiv. Operational procedures to follow when one identifies, or suspects, fatigue risk in oneself or others.	
	xv. Incorporate lessons learned regarding the effects of fatigue and mitigation initiatives relative to the air carrier's operations.	
	xvi. Use a methodology that continually assesses the effectiveness of the training program.	
G.	**Fatigue Incident Reporting Process.**	
	i. Does the FRMP have detailed procedures for reviewing and acting upon reports of events that may be attributable wholly or in part to fatigue which are similar to crew reports, and can serve as a mechanism for obtaining all relevant data regarding fatigue contributions to the incident?	
	ii. Does the FRMP consider other data sources such as procedural errors, flightcrew member deviations, flight exceedances, Aviation Safety Action Program (ASAP), or Aviation Safety Reporting System (ASRS) reports and Flight Operations Quality Assurance (FOQA) data helpful to the air carrier to objectively document fatigue?	
H.	**System for Monitoring Flightcrew Fatigue.**	
	i. Does the FRMP have a process to capture all relevant information, such as the schedule leading up to the fatigue event, the actions of the employee to obtain rest, subjective and objective evidence of fatigue, environmental conditions that may have contributed to fatigue, relevant health or medical conditions, specific actions related to the incident, and communications prior to and during the event?	
	ii. Does the FRMP have a corporate policy for the protection of privacy and methods to protect the employee from adverse actions that would discourage reports of fatigue?	
	iii. Does the FRMP define how an event is evaluated for potential fatigue involvement as well as defining the methodology used for conducting a detailed RCA?	
	iv. Does the FRMP contain operational procedures to follow when one identifies, or suspects, fatigue risk in oneself or others?	
I.	**The Organization's FRMP Evaluation Program.**	
	i. Does the FRMP have a systematic process for evaluating the effectiveness of the organization's FRMP?	

Figure 3-170. Fatigue Risk Management Plan Checklist (Continued)

	ii. Does the FRMP define use of a methodology that continually assesses the effectiveness of the FRMP, including the effectiveness of the FRMP to improve alertness and to mitigate performance errors?	
	iii. Does the FRMP have a process for determining the need for amending the FRMP, as appropriate, when it is determined that the FRMP is a policy or procedure that is no longer effective in managing a fatigue event?	

Figure 3-171. Fatigue Risk Management Plan Review and Acceptance Job Aid

Air Carrier:		Date:		
Certificate No.				
	Element and Task	**Yes**	**No**	**Referenced in Fatigue Risk Management Plan (FRMP)**
A.	**Senior Level Management Commitment to Reducing Fatigue and Improving Flightcrew Alertness.**			
	i. Does the FRMP have a letter from senior level management describing their acknowledgement and commitment to managing and mitigating fatigue and improving flightcrew alertness?			
	ii. Does the corporate policy define how an event is evaluated for potential fatigue involvement as well as define an overview of the methodology for conducting a detailed Root Cause Analysis (RCA)?			
	iii. Does the FRMP define "Just Culture" or "Safety Culture?"			
	iv. Does the FRMP have an open communications policy for reporting fatigue-related issues?			
	v. Does the FRMP have a fatigue reporting system?			
B.	**FRMP Scope and the Organization's Fatigue Management Policy and Procedures.**			
	i. Are the scope and objectives of the organization's FRMP clearly defined?			
	ii. Are the organization's policies and procedures adequate to mitigate and manage the effects of fatigue and improve flightcrew alertness?			
	iii. Is each element of the FRMP clearly defined?			
	iv. Are the organization's FRMP safety objectives and expectations clearly defined?			
C.	**Flight Time and Duty Period Limitations.**			
	i. Does the FRMP contain the current flight time and duty limits that will be used by the organization based upon their kind of operations? These limitations can be either the CFR limitations or the hours of service limitations observed in the pilot's collective bargaining agreement (CBA).			
D.	**Rest Scheme.**			
	i. Does the FRMP incorporate the organization's rest scheme consistent with the kinds of operations and the type of operations conducted by the air carrier?			
	ii. Does the rest scheme consider the length of rest periods required to mitigate the effects of fatigue for scheduled vs. unscheduled operations, domestic and international operations, day vs. night operations, operations through multiple time zones, etc.?			
	iii. Is there a rest scheme for those flightcrew members assigned or scheduled for reserve assignments?			

Figure 3-171. Fatigue Risk Management Plan Review and Acceptance Job Aid (Continued)

	iv. If applicable, is there a rest scheme for augmented flightcrew operations to mitigate fatigue and improve flightcrew member alertness?			
E.	**Fatigue Reporting Policy.**			
	i. Does the FRMP have a fatigue reporting policy that encourages the reporting of fatigue-related events as part of the overall FRMP?			
	ii. Does the fatigue reporting policy permit crewmembers and other employees to report subjective fatigue and, from time to time, request relief from duties because of chronic fatigue?			
	iii. Are there provisions in the FRMP for these reports being used as data sources by the organization in developing new and amended fatigue mitigation strategies?			
F.	**Fatigue Education and Awareness Training Program.**			
	i. The frequency of the Fatigue Education and Awareness Training Program is every 12 calendar-months. Does the Fatigue Education and Awareness Training Program require recurrency every 12 calendar-months?			
	ii. A review of Federal Aviation Administration (FAA) flight, duty, and rest regulatory requirements.			
	iii. Awareness of the FRMP program itself, including fatigue-related policies and procedures, and the responsibilities of management and employees to mitigate or manage the effects of fatigue and improve flightcrew member flight deck alertness.			
	iv. The basics of fatigue, including sleep fundamentals and circadian rhythms.			
	v. The causes and awareness of fatigue.			
	vi. The effects of fatigue relative to flightcrew member performance.			
	vii. Fatigue countermeasures, prevention, and mitigation.			
	viii. The influence of lifestyle, including nutrition, exercise, and family life on fatigue.			
	ix. Familiarity with sleep disorders.			
	x. The effects of fatigue as a result of commuting.			
	xi. Flightcrew member responsibility for ensuring adequate rest and fitness for duty.			
	xii. The effects of operating through multiple time zones.			
	xiii. Operational procedures to follow when one identifies, or suspects, fatigue risk in oneself or others.			
	xiv. Incorporate lessons learned regarding the effects of fatigue and mitigation initiatives relative to the air carrier's operations.			
	xvi. Use of a methodology that continually assesses the effectiveness of the training program.			

Figure 3-171. Fatigue Risk Management Plan Review and Acceptance Job Aid (Continued)

G.	**Fatigue Incident Reporting Process.**			
	i. Does the FRMP have detailed procedures for reviewing and acting upon reports of events that may be attributable wholly or in part to fatigue which are similar to crew reports, and can serve as a mechanism for obtaining all relevant data regarding fatigue contributions to the incident.			
	ii. Does the FRMP consider other data sources such as procedural errors, flightcrew member deviations, flight exceedances, Aviation Safety Action Program (ASAP), or Aviation Safety Reporting System (ASRS) reports and Flight Operations Quality Assurance (FOQA) data helpful to the air carrier to objectively document fatigue?			
H.	**System for Monitoring Flightcrew Fatigue.**			
	i. Does the FRMP have a process to capture all relevant information, such as the schedule leading up to the fatigue event, the actions of the employee to obtain rest, subjective and objective evidence of fatigue, environmental conditions that may have contributed to fatigue, relevant health or medical conditions, specific actions related to the incident, and communications prior to and during the event?			
	ii. Does the FRMP have a corporate policy for the protection of privacy and methods to protect the employee from adverse actions that would discourage reports of fatigue?			
	iii. Does the FRMP define how an event is evaluated for potential fatigue involvement as well as defining the methodology used for conducting a detailed RCA?			
	iv. Does the FRMP contain operational procedures to follow when one identifies, or suspects, fatigue risk in oneself or others?			
I.	**The Organization's FRMP Evaluation Program.**			
	i. Does the FRMP have a systematic process for evaluating the effectiveness of the organization's FRMP?			
	ii. Does the FRMP define use of a methodology that continually assesses the effectiveness of the FRMP, including the effectiveness of the FRMP to improve alertness, and to mitigate performance errors?			
	iii. Does the FRMP have a process for determining the need for amending their FRMP, as appropriate, when it is determined that the FRMP is a policy or procedure that is no longer effective in managing a fatigue event?			

Figure 3-171. Fatigue Risk Management Plan Review and Acceptance Job Aid (Continued)

	Status: □ Accepted □ Unacceptable □ Returned to Air Carrier	
Remarks:		
	Inspector:	Date:

RESERVED. Paragraphs 3-4633 through 3-4748.

VOLUME 5 AIRMAN CERTIFICATION

CHAPTER 3 AIRLINE TRANSPORT PILOT (ATP) CERTIFICATION UNDER TITLE 14 CFR PART 121, 135, OR 91 SUBPART K

Section 7 Documentation Phase—All Aircraft Transport Pilot Applicants Engaged in Operations Under Part 121, 135, or 91 Subpart K

5-961 SUCCESSFUL APPLICANTS OF ORAL TESTS AND FIRST SEGMENTS OF TWO-SEGMENT FLIGHT TESTS. An ATP/Type Rating Oral or Flight Test Documentation Job Aid has been prepared to aid inspectors and examiners when conducting the documentation phase (Figure 5-124). Inspectors and examiners shall complete the following actions when an applicant's performance during an oral test or a flight test has been satisfactory:

A. Oral Test.

1) Inspectors and examiners shall mark, date, and sign the appropriate spaces of Federal Aviation Administration (FAA) Form 8410-1, Airman Proficiency/Qualification Check, FAA Form 8410-3, Airman Competency/Proficiency Check, or FAA Form 8710-1, Airman Certificate and/or Rating Application, as applicable, and return it to the applicant.

2) Inspectors and examiners shall complete an FAA Form 8000-36, Program Tracking and Reporting Subsystem (PTRS) Data Sheet, and forward it to the appropriate Flight Standards District Office (FSDO). See Volume 5, Chapter 1, Section 6, Issuance of Notices of Disapproval of Application, for instructions on completing PTRS.

B. First Segment of a Two-Segment Flight Test.

1) Inspectors and examiners shall mark, date, and sign the appropriate spaces on the FAA Form 8410-1, FAA Form 8410-3, or FAA Form 8710-1, as applicable, and return it to the applicant.

2) Inspectors and examiners shall clearly indicate on the job aid those events that were not evaluated during the first segment by marking an "NE" (not evaluated) in the space provided. The job aid shall be dated, signed, and given to the applicant. The applicant should be instructed to give the application and job aid to the inspector or examiner conducting the airplane segment of the test. See paragraph 5-964 for guidance on documentation requirements for incomplete tests.

3) Inspectors and examiners shall complete an FAA Form 8000-36 and forward it to the appropriate FSDO.

5-962 DOCUMENTATION OF SUCCESSFULLY COMPLETED FLIGHT TESTS. Applicants who have completed all requirements are entitled to a temporary certificate.

A. Fully Qualified Applicants.

1) Inspectors and examiners shall prepare an FAA Form 8060-4, Temporary Airman Certificate, in duplicate, for all fully qualified applicants. See Volume 5, Chapter 1, Section 5, Issuance of Temporary Certificates, for instructions on completing the Temporary Airman Certificate. The inspector or examiner shall determine if an applicant meets the flight time requirements of the International Civil Aviation Organization (ICAO). Applicants should present the written test application job aid, signed and dated by the inspector who prepared it as verification of the ICAO requirements. If the applicant cannot present the job aid, the applicant must present logbooks which verify the ICAO requirements. If the applicant does not present a job aid or logbooks, the inspector or examiner may issue the Temporary Airman Certificate, provided that both ICAO restrictions in subparagraphs 5-962A1)a) and b) are placed on that certificate.

a) If an applicant does not meet the ICAO total time requirement, the following restriction must be placed on the Temporary Airman Certificate: "Holder does not meet the pilot flight experience requirements of ICAO."

b) If an applicant does not meet the pilot-in-command (PIC) requirements of ICAO, the following restriction must be placed on the Temporary Airman Certificate, "Holder does not meet the pilot-in-command (PIC) experience requirements of ICAO."

2) Applicants shall be given the duplicate copy of the Temporary Airman Certificate.

3) Inspectors and examiners shall complete, date, and sign the FAA Form 8410-1, FAA Form 8410-3, or FAA Form 8710-1 as applicable. Place a diagonal line across the back of the form and write on the line, "Job aid used." Completed job aids may be either retained or disposed of by the inspector or examiner after the certification package is complete. The job aid should not be attached to the certification package.

4) Inspectors and examiners shall complete the PTRS data sheet.

5) Inspectors and examiners shall attach the following documents to the application form and transmit the certification paperwork to the appropriate FSDO:

- Original of the FAA Form 8060-4;
- Superseded pilot certificate;
- Aeronautical Center (AC) Form 8080-2, Airman Written Test Report (required on initial ATP certification and new category ratings);
- FAA Form 8060-5, Notice of Disapproval of Application, if applicable; and
- FAA Form 8000-36.

5-963 DOCUMENTATION OF FAILED ORAL TESTS OR FLIGHT TESTS. If an applicant fails an oral or flight test, inspectors and examiners shall accomplish the following:

A. Notice of Disapproval. Complete FAA Form 8060-5 in duplicate. See Volume 5, Chapter 1, Section 6, for instructions for completing the notice of disapproval.

B. Duplicate Copy of Notice of Disapproval. Give the duplicate copy of the notice of disapproval to the applicant.

C. Airman Written Test Report. Instruct the applicant to retain the AC Form 8080-2.

D. Form Completion. Complete FAA Form 8410-1, FAA Form 8410-3, or FAA Form 8710-1, as applicable, date, and sign it. Place a diagonal line across the back of the form and write on the line, "Job aid used." The ATP written qualifications job aid should be returned to the applicant. Other job aids may be either retained or disposed of after the certification package is complete. Job aids should not be attached to the certification package.

E. PTRS Data Sheet. Complete and sign FAA Form 8000-36.

F. Forward to FSDO. Attach the original FAA Form 8060-5 and FAA Form 8000-36 to the application form and forward the certification paperwork to the appropriate FSDO.

5-964 INCOMPLETE TESTS. The following guidance applies when tests cannot be completed for reasons other than failure of an applicant.

A. Oral Tests. When the oral test is incomplete, it must be completed by the same inspector or examiner within 5 days. If the test cannot be completed by the same inspector within 5 days, it shall be repeated in its entirety.

B. Flight Tests. When a flight test is incomplete, inspectors and examiners shall mark the events that were not evaluated on the job aid. The job aid shall be dated, signed, and given to the applicant. The applicant should be instructed to give the job aid to the inspector or examiner who completes the flight test. If the flight test cannot be completed within 30 days, it shall be repeated in its entirety. When a designated examiner is not an aircrew program designee (APD), that examiner must complete the flight test within 30 days or the flight test must be repeated in its entirety.

C. PTRS. An FAA Form 8000-36 shall be completed by the inspector or examiner and forwarded to the appropriate FSDO.

Figure 5-124. ATP/Type Rating Oral or Flight Test—Documentation Job Aid

SUCCESSFUL ORAL OR FIRST SEGMENT OF TWO-SEGMENT FLIGHT TEST

[ ] Mark, date, and sign FAA Form 8410-1, Airman Proficiency/Qualification Check, FAA Form 8410-3, Airman Competency/Proficiency Check, or FAA Form 8710-1, Airman Certificate and/or Rating Application as applicable. Return to applicant.

[ ] Complete FAA Form 8000-36, PTRS Data Sheet, and forward to the Flight Standards District Office (FSDO).

UNSUCCESSFUL APPLICANTS

[ ] Complete FAA Form 8060-5, Notice of Disapproval of Application, in duplicate:

- The events failed must be indicated.
- If the check is not to be entirely repeated, those events not yet accomplished must be annotated.
- Enter oral and simulator date, as applicable.
- Indicate 1st or 2nd failure.

[ ] Give the duplicate of the FAA Form 8060-5 to the applicant.

[ ] Mark, date, and sign FAA Form 8410-1, FAA Form 8410-3, or FAA Form 8710-1 as applicable.

[ ] Cross out back of application form with diagonal line and annotate line with the words "Job aid used."

[ ] Complete FAA Form 8000-36, PTRS Data Sheet.

[ ] Attach the original Notice of Disapproval and the PTRS Data Sheet to the application and forward the paperwork to the FSDO.

SUCCESSFUL COMPLETION OF FLIGHT TEST

[ ] Mark, date, and sign FAA Form 8410-1, FAA Form 8410-3, or FAA Form 8710-1 as applicable.

[ ] Cross out back of application form with diagonal line and annotate line with the words "Job aid used."

[ ] Prepare an FAA Form 8060-4, Temporary Airman Certificate, in duplicate. Enter ICAO restrictions, if required.

[ ] Give applicant the duplicate copy of the FAA Form 8060-4.

[ ] Complete PTRS Data Sheet.

[ ] Attach the following to the application and forward the paperwork to the FSDO:

[ ] Airman Written Test Report (AC Form 8080-2)

[ ] Notice of Disapproval (Form 8060-2) if applicable.

[ ] Superseded airman's certificate.

[ ] PTRS Data Sheet (FAA Form 8000-36).

RESERVED. Paragraphs 5-965 through 5-980.

VOLUME 6 SURVEILLANCE

CHAPTER 2 PART 121, 135, AND 91 SUBPART K INSPECTIONS

Section 38 Evaluate a Part 121/135.411(a)(2) Operator Aircraft Storage Program

6-1036 PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODES AND AIR TRANSPORTATION OVERSIGHT SYSTEM (ATOS) REPORTING ELEMENT.

A. Maintenance: 3341, 3342 (as applicable).

B. Avionics: 5341, 5342 (as applicable).

C. ATOS Reporting. All Data Collection Tool (DCT) elements are to be documented in accordance with Volume 10 of this order.

D. Non-ATOS Certificate Holder Reporting. All activities are to be documented in accordance with the PTRS Procedures Manual (PPM).

6-1037 OBJECTIVE. This section provides information and guidance to evaluate aircraft storage programs used by air carriers operating under Title 14 of the Code of Federal Regulations (14 CFR) parts 121 and 135 for acceptance.

6-1038 BACKGROUND. The primary purpose of an aircraft storage program is preservation. Storage programs are intended to preserve the aircraft in a known state through methods, techniques, and procedures designed to mitigate or eliminate the adverse effects of the storage environment and non-operation of the aircraft. An effective storage program will allow the operator to readily return the stored aircraft to an operational status.

6-1039 DEFINITIONS. For the purposes of this section, the following definitions apply.

A. Storage (General). An air carrier's aircraft is considered stored when it is removed from active, operational status for any reason while the aircraft remains on the certificate holder's operations specifications (OpSpecs). The level of preservation depends on the length of storage, the aircraft design features, and the storage environment (inside/outside, etc.).

B. Short Term Storage. An aircraft is subject to short term preservation procedures when it is removed from operational status for less than 60 days.

C. Intermediate Term Storage. An aircraft is subject to intermediate term preservation procedures when it is removed from operational status for more than 60 days, but less than 120 days.

D. Long Term Storage. An aircraft is subject to long term preservation procedures when it is removed from operational status for 120 days or more.

6-1040 GENERAL.

A. Occasionally, and for a variety of reasons, an air carrier will take an aircraft out of service (OTS) for a period of time. Depending on the circumstances, the time period can be a couple of days to a number of years to indefinitely.

B. The level of preservation depends on variables, such as the planned length of storage and the storage environment. For example, a large transport category aircraft taken OTS due to excess capacity and stored for an indefinite period outside on the ramp at San Francisco International Airport (SFO) should have a more comprehensive level of preservation than an identical aircraft taken OTS for storage and placed in a desert climate like Roswell, New Mexico.

6-1041 AIR CARRIER AIRCRAFT STORAGE PROGRAMS. As stated earlier, aircraft storage programs are intended to mitigate or eliminate the effects of a non-operational status by implementing various levels of preservation.

A. Consistent with 14 CFR part 1, preservation is included in the scope of the maintenance function along with inspection, repair, overhaul, and the replacement of parts.

B. Aircraft storage programs are an integral part of the air carrier maintenance programs required by part 121, § 121.367 and part 135, § 135.425. Storage programs are developed and documented consistent with 14 CFR part 43, § 43.13(c) in the manual as required by §§ 121.135, 121.369, and 135.425. Air carrier aircraft storage programs do not require any specific Federal Aviation Administration (FAA) approvals other than the § 43.13(c) process.

C. Each air carrier should have a storage program that is unique to its type of aircraft make/model/series (M/M/S), storage environment, and operational needs. Inspectors should not expect a storage program to be exactly the same from one carrier to the next.

D. Generally, aircraft storage programs will have procedures for placing the aircraft in various levels of preservation, for de-preserving the aircraft when placing it back in service, for accomplishing inspections or other maintenance designed to mitigate or eliminate the effects of preservation, and de-preservation, and for documenting all of these actions.

E. Some aircraft manufacturers have recommended storage programs currently in place. These programs are not to be considered mandatory for air carriers to implement. Air carriers may use all, some, or none of these recommendations while developing their own specific storage program. However, it is important to note that some manufacturers may have specific airworthiness requirements based on proper storage/preservation and that the carrier must address these requirements when returning the aircraft to an Airworthy condition.

6-1042 AIRCRAFT OPSPECS LISTING. Air carrier aircraft that are removed from service and preserved in accordance with the air carrier's storage program should remain on the aircraft OpSpecs listing. If the aircraft is removed from OpSpecs, the air carrier loses the authority to perform maintenance on that aircraft as well as the authority to use its storage program. Air carrier aircraft removed from the aircraft listing come under the requirements of § 43.13(a) and (b), rather than the air carrier maintenance program. Furthermore, the air carrier's principal

maintenance inspector (PMI) loses the oversight responsibility/authority for those aircraft that are not on the air carrier's aircraft listing. However, if the air carrier places an aircraft in a non-operational status, but doesn't preserve it to an appropriate level in accordance with a storage program, then the PMI should remove that aircraft from the aircraft OpSpecs listing. The PMI can take this action under the provisions of 14 CFR part 119, § 119.51(a)(1), due to the safety concerns of creating an unknown airworthiness status by not preserving the aircraft. The public interest is served by not allowing the aircraft to be used in air transportation until the operator demonstrates the required airworthiness status to the FAA.

6-1043 STORED AIR CARRIER AIRCRAFT SCHEDULED MAINTENANCE REQUIREMENTS.

A. OpSpec D072, Aircraft Maintenance—Continuous Airworthiness Maintenance Program (CAMP) Authorization, gives the air carrier the authorization to conduct operations under part 121 as long as the requirements set forth in the OpSpec are complied with. It is important to understand that these OpSpec authorization requirements are for operational aircraft. Aircraft placed in storage, with or without a storage program, are not intended for operation; therefore, they do not fall under the requirements of the OpSpec until the carrier intends to operate the aircraft.

B. Since air carrier aircraft that have been placed in a non-operational status and preserved are not being operated, they are not required to be maintained in accordance with the maintenance schedule listed on OpSpec D088, Maintenance Time Limitations Authorization, or OpSpec D089, Maintenance Time Limitations Section.

C. However, the storage program may include other scheduled maintenance requirements or other required actions that are particular to the storage environment and to the level of storage. For example, engine runs may be required on a weekly basis for engines that have not been preserved. Another example is servicing dehumidifying equipment/material on a scheduled basis. Still another example is moving the aircraft from one side of the ramp to the other and turning it 180 degrees every 3 months. In any case, in addition to the procedures implemented to preserve the aircraft and place it in storage, the storage program should contain a schedule for accomplishment of all tasks required to maintain the aircraft in the intended level of preservation.

6-1044 STORED AIR CARRIER AIRCRAFT AIRWORTHINESS CERTIFICATES. Depending on the level of preservation, intended length of storage, and the security of the aircraft, the air carrier should consider removing the Standard Airworthiness Certificate and the certificate of registration from each stored aircraft for safekeeping.

A. Inspectors must consider a number of factors when evaluating an FAA Standard Airworthiness Certificate issued to a stored aircraft. One is the unlimited or indefinite expiration date. Two others are validity and effectiveness. Valid means that the Standard Airworthiness Certificate has been executed with the proper legal authority and formalities; it is legitimate. Effectiveness means that the certificate remains in force; it has legal meaning. Still another factor to consider is that the effectiveness of the Standard Airworthiness Certificate is derived from the

terms and conditions listed in block 6 on the Standard Airworthiness Certificate itself and further described in 14 CFR part 21, § 21.181(a)(1).

B. The text in block 6 of the Standard Airworthiness Certificate states:

"Unless sooner surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator, this airworthiness certificate is effective as long as the maintenance, preventive maintenance, and alterations are performed in accordance with parts 21, 43, and 91 of the Federal Aviation Regulations, as appropriate, and the aircraft is registered in the United States."

C. It is implicit in the terms and conditions of block 6 that the subject aircraft is being or will be operated. However, when an aircraft is preserved and placed in storage, it is similarly implicit that the aircraft is not going to be operated. However, because there is no expiration date, the Standard Airworthiness Certificate of a preserved and stored aircraft is not to be considered revoked, suspended, or terminated as a result. The Standard Airworthiness Certificate remains valid and the block 6 terms and conditions still apply. The Standard Airworthiness Certificate becomes ineffective when the requirements for maintenance, preventive maintenance, and alterations pursuant to parts 21, 43, and 91 are not complied with.

D. In accordance with the terms and conditions in block 6, the Standard Airworthiness Certificate of a preserved and stored aircraft is restored to a state of being effective when all maintenance, PM and alterations required by the air carrier maintenance program are complied with. The air carrier storage program should have clear procedures for ensuring that all of the maintenance program requirements as well as the appropriate regulatory requirements are complied with before approving it for return to service.

6-1045 UTILIZATION OF PARTS FROM AIRCRAFT IN STORAGE. It is common practice for air carriers to remove parts from aircraft that are in storage (regardless if the aircraft is on OpSpec D085, Aircraft Listing, or not). Aviation safety inspectors (ASI) must remember that the FAA has no regulatory authority to dictate where carriers obtain their parts. The responsibility lies with the carrier/installer to determine that all parts used on type certificated (TC) products are acceptable for installation. The major concern is maintenance requirements becoming "overdue" on parts that have been installed on aircraft while in storage. The air carriers receiving inspection process must detail the procedures to ensure this responsibility.

6-1046 AIRCRAFT MOVEMENT WHILE IN STORAGE STATUS. Movement (operation) of a stored aircraft from one place to another by air with the intention of keeping it in storage should be an unusual event. However, before any operation of an air carrier aircraft that has been preserved and stored in accordance with the air carrier's storage program can take place, the air carrier must complete procedures for de-preserving the aircraft and accomplish those maintenance actions necessary to return the aircraft to an Airworthy status. The storage program should clearly outline these procedures and maintenance actions.

A. If the aircraft is not being moved to accomplish maintenance, movement of a preserved and stored aircraft can become complex if Airworthiness Directive (AD) requirements and scheduled maintenance requirements are past due. PMIs should pay close attention to the

special flight permit restrictions and requirements of any overdue AD, as well as the terms and conditions of the air carrier's continuing authorization to issue special flight permits for maintenance, if appropriate.

B. The procedures and actions required for operating a preserved and stored aircraft from one storage place to another should not be significantly different from those for returning the aircraft to a full operational status.

C. Aircraft subject to Stage 2 noise restrictions must be flown subject to the additional requirements of part 91, § 91.858.

D. If the aircraft is on the air carrier's OpSpecs, then the PMI of the air carrier will provide oversight of the movement of the aircraft. If the aircraft is not on an air carrier certificate, then the PMI in the geographical area the aircraft is located will provide oversight.

6-1047 RETURN TO SERVICE FOLLOWING STORAGE. Storage programs are meant to preserve an aircraft, not require the accomplishment of normal scheduled maintenance. At a minimum, certificate holders must ensure the aircraft conforms to applicable airworthiness requirements and limitations of their maintenance program and the regulations. It must be understood that all time, especially calendar time, accrued while in storage must be counted when determining what scheduled maintenance is due once the aircraft is returned to service.

6-1048 OPSPEC D106, AIRCRAFT IN LONG TERM MAINTENANCE OR STORAGE. The statutory and regulatory basis requiring liability insurance coverage is in Title 49 of the United States Code (49 U.S.C.), § 41112 and its implementing regulation, and 14 CFR part 205, § 205.4(b). Section 205.4(b) states, in part, that "Aircraft shall not be listed in the carrier's operations specifications with the FAA and shall not be operated unless liability insurance coverage is in force." All air carrier certificate holders are required to have continuous, effective liability insurance coverage and in effect, to ensure that the public is protected in the event of an accident. Effective liability insurance coverage is a condition for an air carrier to hold Office of the Secretary of Transportation (OST) economic authority.

A. However, in some circumstances, maintaining liability insurance coverage on an aircraft not in operation can produce economic hardship for an air carrier certificate holder (e.g., when an air carrier certificate holder's operation is seasonal, an aircraft is undergoing long term maintenance, or it is in long term storage). Therefore, to comply with the requirements of § 205.4(b) and accommodate the economic needs of the certificate holders, OpSpec A501, Liability Insurance Suspension for Seasonal Operations, and OpSpec D106, were developed.

B. OpSpec A501 is issued to an air carrier certificate holder who requests to completely cease all kinds of operations for all of its aircraft for a designated period of time. The issuance of OpSpec A501 voluntarily holds all of the air carrier certificate holder's OpSpecs, with the exception of OpSpec A501, in a state of suspension for the established period of time, as listed in OpSpec A501.

C. OpSpec D106 is issued to those air carrier certificate holders who wish to suspend the aircraft liability insurance on specific aircraft that are in long term maintenance or storage and for which it is not necessary or practicable to meet the requirements of § 205.4(b). These aircraft

cannot be used in any air carrier certificate holder's operations during this time. The issuance of this OpSpec voluntarily holds Parts A, B, C, and H of the OpSpecs in suspense for only those aircraft listed in Table 1 of OpSpec D106. Part D maintenance paragraphs are not suspended, which allows the maintenance programs to remain active.

D. At no time will OpSpecs A501 and D106 be active at the same time. These OpSpecs were developed as separate provisions for specific needs.

E. This section applies only to air carriers that have implemented storage programs. Carriers who do not choose to implement storage programs do not need provisions to keep their Part D maintenance paragraphs active, as they will not be maintaining their aircraft in accordance with their maintenance program.

6-1049 COORDINATION REQUIREMENTS. This task requires coordination with Airworthiness and Operations ASIs.

6-1050 REFERENCES, FORMS, AND JOB AIDS.

A. References (current editions):

- Title 14 CFR parts 21, 119, 121, and 135,
- Volume 3, Chapter 42, Evaluate Part 121/135 (10 or More) Contract Maintenance Program, Contract Agreements, and Contracted Work, if applicable, and
- Volume 3, Chapter 43, Evaluate Continuous Airworthiness Maintenance Program/Revision.

B. Forms. None.

C. Job Aids. Job Task Analysis (JTA): 3.3.83.

6-1051 PROCEDURES.

A. Review the Manual. The certificate holder's manual or other document should define adequate procedures to preserve aircraft while in storage. The areas of preservation in the paragraphs below will prevent the deterioration of the airplane, engines, structure, finish, and/or system components. Certificate holders may have all of these, some of these, or even additional areas in their manual based on the complexity of their aircraft and the amount of time it will be in storage. Certificate holders must consider the location where the aircraft will be stored; i.e., inside and protected from the environment, or outside, in which case environmental conditions must be considered (high winds, humidity, unusual pollutants, etc.). The need for repetitive inspections to ensure preservation methods are adequate must also be considered. The areas of preservation may include the following:

1) Airframe. This may include:

- Installation of protective coverings and closing of all external openings (except drains);
- Parking/mooring procedures;

- Installation of safety pins;
- Washing of aircraft (due to environment, may be repetitive);
- Landing gear strut servicing, lubricating and protection of the oleo;
- Tire inflation and rotation;
- Fuel system decontamination;
- Gust locks;
- Primary and secondary flight control cycling and lubrication;
- Protection of windows;
- Procedures for the removal of parts or components;
- Inspection of seats and carpet for moisture/mildew (if stored in humid environments);
- Preserving lavatories and water systems; and
- Opening of closets, cabinets, and interior doors to supply ventilation and to prevent mildew.

2) Engine/Auxiliary Power Unit (APU). This may include:

- Procedures to operate the engine/APU on an established interval;
- Complete preservation of the engine/APU (e.g., pickling); and
- Procedures for the removal of parts or components.

3) Electrical. This may include:

- Opening/closing of circuit breakers;
- Battery servicing/disconnection;
- Removal of batteries from emergency devices (such as megaphone; flashlights, power supplies for emergency lights, emergency beacons, etc.); and
- Procedures for the removal of parts or components.

4) Operational Checks. This may include:

- Procedures to transition the aircraft from preservation to a state acceptable for engine operations and operational checks of systems, back to the preserved state, and
- Operational checks of hydraulics, electrical, engine, fuel systems and avionics, etc.

B. Review Contracts with Air Carrier Maintenance Providers. A maintenance provider may be used to store and preserve aircraft. These providers are required to perform all functions in accordance with the certificate holder's manual and be monitored by the operator's Continuing Analysis and Surveillance System (CASS) (See Volume 6, Chapter 2, Section 40). If contracts were negotiated, the PMI should review this document to ensure the certificate holder's manual procedures will be followed (see Volume 3, Chapter 42).

C. Review Procedures for Movement of the Aircraft in a Storage Status. Occasionally, certificate holders may need to fly an aircraft that is in storage to another location to perform maintenance. The air carrier must have procedures in place to ensure an aircraft, which does not meet its TC, is in safe condition for the intended flight. The manual must include procedures to:

1) Ensure that flights conducted under this provision are conducted in accordance with OpSpec D084, Special Flight Permit with Continuous Authorization to Conduct Ferry Flights, and/or OpSpec D095, Minimum Equipment List (MEL) Authorization.

NOTE: The subject aircraft must be listed on OpSpec D085 in order to be operated as authorized in OpSpecs D084 and D095. If the aircraft is not listed on OpSpec D085, then the requirements of § 21.197(a) apply.

1) De-preserve the aircraft based on any preservation methods used during storage (i.e., protective coverings/Standard Airworthiness Certificates, engine pickling, and fuel system additives).

2) Conduct inspections or operational checks necessary to ensure the aircraft is safe for the intended flight.

3) Ensure that the aircraft is evaluated for inoperative systems or removed components/accessories and their affect on the intended flight. This includes determining Weight and Balance (W&B) changes on the aircraft.

4) Obtain approval from personnel with authority and responsibility for authorizing the movement of aircraft in storage status.

5) Determine that ADs, which must be complied with before flight, are so complied with.

D. Review Procedures for Returning the Aircraft to an Airworthy Condition. Regardless of what procedures a certificate holder has in its manual on preserving an aircraft in storage, the manual must have procedures on how to return an aircraft to Airworthy condition once taken out of storage. These procedures must include a records check and compliance audit of the maintenance program. All time limited (flight hours, cycles, or calendar) items that went overdue during the storage period must be brought back into compliance. Review the manual to determine if it includes procedures to:

1) Define lines of responsibility and authority for personnel involved in ensuring the aircraft is returned to service properly.

2) Audit the current status of the aircraft to the maintenance program and comply with required tasks, including ADs, life-limited components, Certification Maintenance Requirements (CMR), avionics databases, etc.

3) De-preserve the aircraft based on any preservation methods used during storage (i.e., protective coverings/Standard Airworthiness Certificates, engine pickling, and fuel system additives).

4) Conduct other inspections and operational checks, as deemed necessary, based on the amount of time the aircraft was in storage and the environment to which it was exposed.

5) Conduct any operational check flights or test flights prior to return to service.

6-1052 TASK OUTCOMES.

A. PTRS. Complete PTRS Record and/or ATOS DCT Safety Attribute Inspection (SAI): 1.3.1.

B. Complete the Task. Successful completion of this task will result in the acceptance of the storage program submitted as part of the CAMP. If requested by the air carrier, issue OpSpec D106.

C. Document the Task. File all supporting paperwork in the operator/applicant's office file.

6-1053 FUTURE ACTIVITIES. Normal surveillance.

RESERVED. Paragraphs 6-1054 through 6-1070.

VOLUME 8 GENERAL TECHNICAL FUNCTIONS

CHAPTER 2 TECHNICAL GROUPS, BOARDS, AND NATIONAL RESOURCES

Section 4 Serve as a Member of a Flight Operations Evaluation Board

8-82 RESERVED.

8-83 OBJECTIVE. This section provides guidance to inspectors who serve as members or technical advisors on a Flight Operations Evaluation Board (FOEB).

8-84 GENERAL.

A. Definitions.

1) Flight Operations Evaluation Board (FOEB). An FOEB is a council of specialists responsible for the Master Minimum Equipment List (MMEL) for a type of aircraft. The board's main responsibilities are to develop and maintain an MMEL (new or revised) and accomplish an operational evaluation of the aircraft. The manager of an Aircraft Evaluation Group (AEG) establishes an FOEB.

2) Flight Operations Policy Board (FOPB). An FOPB provides direction, guidance, and policy for the FOEB. An FOPB consists of AEG managers and representatives from the Air Transportation Division (AFS-200) and the General Aviation and Commercial Division (AFS-800).

3) Flight Standardization Board (FSB). An FSB is a designated group of operations inspectors who determine type rating, certification, and training requirements for new or modified aircraft.

4) Master Minimum Equipment List (MMEL). An MMEL is a list of equipment that may be inoperative during aircraft operation. The MMEL is developed by the FOEB and approved by AFS-200 and AFS-800. The MMEL is the basis for an operator's minimum equipment list (MEL).

5) Relief. For purposes of this chapter, relief is defined as authorization to deviate from the requirement for specific aircraft equipment to be operative.

B. Purpose and Composition of the FOEB. An FOEB develops a proposed MMEL. A board may also revise an existing MMEL.

1) Chairperson. The FOEB chairperson is normally an operations specialist from the AEG responsible for the particular aircraft, and will be appointed by the AEG manager. (This individual is frequently the chairperson of the FSB that evaluated the aircraft in question.) The chairperson plans board functions, sets the agenda, records meeting minutes, assembles and prepares final reports, and resolves any technical deficiencies occurring on the board.

a) The chairperson provides schedules and periodic progress reports to the managers of AFS-200 or AFS-800, as appropriate.

b) Through agenda preparation, the chairperson develops the issues for discussion and their supporting rationale. The chairperson has final authority in resolving disagreements.

c) The chairperson arranges meetings with industry users and manufacturers to gather additional information on proposed MMEL items.

d) After the aircraft is certificated, the chairperson conducts FOEB meetings to review amendments to the MMEL.

2) Members. The following specialists may serve as members of an FOEB: an operations inspector, the flight test pilot most familiar with the aircraft, a maintenance specialist, an avionics specialist assigned to the Maintenance Review Board (MRB) for the aircraft, and a representative from AFS-200 or AFS-800.

3) Advisors. FOEB advisors may include operations inspectors qualified in the aircraft, maintenance or avionics inspectors, aircraft certification personnel, or representatives of the manufacturer.

C. How the Board Works. The board is established by the AEG, which then appoints the chairperson. The chairperson appoints board members. The chairperson also prepares the agenda, which presents MMEL items for new or existing aircraft. For simple additions to or revisions of an MMEL, a meeting can be conducted by telephone or some other informal way. For new aircraft or major revisions to an MMEL, the process is more complex. The following paragraphs describe a typical routine for approving a new MMEL or adopting a major revision.

1) First, a closed FOEB meeting is held to discuss the merits of individual MMEL items and to gather information from members, based on their technical expertise. At this meeting, an FOEB position is established for each agenda item. At the chairperson's discretion, non-Federal Aviation Administration (FAA) advisors may attend to give technical information.

2) A public meeting is held to gather information and input from the manufacturer and industry. During this meeting, the FOEB position on each MMEL item is presented to the public. Discussion is encouraged, and any new or conflicting information is considered in a subsequent, closed FOEB meeting. If no new information is gathered, issues may be settled at this meeting.

3) Last, a final, closed FOEB meeting is held to address each unresolved item. The chairperson submits the board's determination to AFS-200 and AFS-800 for concurrence.

D. Examples of Members' Tasks. Each FOEB member reviews the documents provided by the chairperson as well as the Aircraft Flight Manual (AFM). Each inspector contributes technical expertise based on personal knowledge and experience, and also responds to industry comments and questions in a technically credible manner. All members participate in the meetings as advisors.

E. FAA/Industry Meeting Preparation. The purposes of the FOEB's public meetings are to obtain any information about the proposed MMEL that was not considered at the closed meeting, to present the FOEB's position to the public, and to negotiate differences. Before the public meeting, FOEB members should review all pertinent documents and the AFM to ensure that their technical knowledge is current. During the meeting, members should:

- Be prepared to comment at the request of the chairperson (or confer in private with the chairperson outside of the meeting);
- Take notes to supplement the official minutes;
- Use discretion in releasing any information received at closed FOEB meetings to non-FAA personnel;
- Neither criticize nor compare manufacturers; and
- Refrain from argument to justify an FAA position.

F. Distribution of the Board's Findings. The detailed minutes of the public meeting should include the full range of conflicts and discussion. The chairperson submits the proposed MMEL or MMEL revision to the AEG manager for review and concurrence. The AEG submits the MMEL to AFS-200 for the division manager's signature. After approval, the MMEL or MMEL revision is then released to district offices through the Flight Standards Information Management System (FSIMS).

8-85 PREREQUISITES AND COORDINATION REQUIREMENTS.

A. Prerequisites. This task requires knowledge of FAA policies, knowledge of subject aircraft systems and operational requirements, and qualification as an aviation safety inspector (ASI) (Operations).

B. Coordination. This task requires coordination with the appropriate AEG, AFS-200, AFS-800, the Type Certification Board (TCB), the aircraft manufacturer, or the FSB.

8-86 REFERENCES, FORMS, JOB AIDS.

A. References:

- Title 14 of the Code of Federal Regulations (14 CFR) parts 1, 61, 91, 121, 125, and 135.
- FAA Order 1100.5, FAA Organization – Field.
- FAA Order 8100.5, Aircraft Certification Service Mission, Responsibilities, Relationship and Programs.

B. Forms:

- FAA Form 8430-21, Operating Certificate.
- FAA Form 8430-7, Minimum Equipment List.

C. Job Aids. None.

8-87 PROCEDURES.

A. Review Agenda. Review each agenda item.

1) Consider the request to ensure that granting relief will not conflict with:

- Applicable regulations.
- Type certification requirements.
- AFM limitations, abnormal or emergency procedures, normal procedures, aircraft performance.
- FAA policy guidance.
- Airworthiness directives.
- Recommendations of flight test engineers.

2) Consider the following factors before making recommendations:

- Regulatory or policy requirements.
- Risk (Will granting relief compromise safety?).
- Transfer of function (Will another component or system assume the function of the inoperative equipment?).
- Next most critical failure (If a supporting system fails, how will that affect the other equipment? What back-up system exists?).
- Extended range operations (Is this equipment required for extended range operations?).

3) Compare the proposed MMEL against the current MMEL, if available.

B. Participate in Closed Meeting. Prepare for the closed FAA meeting by integrating the results of the technical review. Be well informed and able to provide the chairperson with comments on each item. A board member's comments should include an opinion on whether to grant relief, and justification for that opinion.

C. Participate in Public Meeting.

1) Prepare for the public meeting by reviewing the FOEB's position on each MMEL agenda item from the FAA closed meeting. Bring technical materials such as the relevant 14 CFR part(s), the AFM, current MMEL, etc.

2) Anticipate and plan for public response to changes or additions to the agenda.

3) Take notes to provide the chairperson with written confirmation of comments to MMEL agenda items.

4) Document the proceedings if requested by the chairperson. Retain these notes until the MMEL is approved or denied.

D. Discuss Open Items in Another Closed FAA Meeting. This meeting is held to resolve issues still open after the public meeting. It is conducted as described in subparagraph B above.

8-88 TASK OUTCOMES. Completion of this task results in one or more of the following:

- Documentation of items that should not be approved.
- Changes to agenda items recommended by inspector.

8-89 FUTURE ACTIVITIES. The inspector may participate in a reconvening of the FOEB for subsequent MMEL revisions or problems that may arise after an MMEL is approved.

RESERVED. Paragraphs 8-90 through 8-104.

VOLUME 8 GENERAL TECHNICAL FUNCTIONS

CHAPTER 2 TECHNICAL GROUPS, BOARDS, AND NATIONAL RESOURCES

Section 7 Maintenance Review Boards

8-151 BACKGROUND.

A. Instituting Requirements. The establishment of minimum maintenance/inspection tasking requirements for type certificated (TC) transport category aircraft are established through a development, review, and approval process involving both industry and regulatory authorities.

B. Maintenance Review Board Report (MRBR). An MRBR contains the initial minimum scheduled maintenance/inspection requirements for a particular transport category aircraft and on-wing engine program, but does not establish off-wing engine maintenance programs required by the regulations.

C. Advisory Circular (AC) 121-22, Maintenance Review Boards, Maintenance Type Boards, and OEM/TCH Recommended Maintenance Procedures (current edition). AC 121-22 provides basic guidelines for use during the development, approval, and revision of the MRBR.

8-152 FUNCTIONS OF A MAINTENANCE REVIEW BOARD (MRB). Through the MRB Chairperson, an MRB performs the following functions:

A. Establishes Requirements. Establishes the Federal Aviation Administration (FAA) minimum maintenance and inspection requirements for transport category aircraft, engines, propellers, and auxiliary power units (APU).

B. Determines Initial Tasking Intervals. Initial maintenance tasking intervals are determined based on data and aircraft design.

C. Ensures Data Collection System in Place. The FAA insures the Original Equipment Manufacturer (OEM)/type certificate holder (TCH) has a system in place that allows for the collection of data from similar aircraft or systems for use in justifying initial tasking intervals for new aircraft. OEM data collection system should include a data communication process/facility that includes:

- Data storage infrastructure (electronic, manual, etc.).
- Data management system (revision control, access control, etc).
- Clearly defined data elements to facilitate an analysis comparison.
- The required data fields are available to support statistical analysis and engineering evaluation.
- Data attributes designed based on SPEC 2000 digital format definitions.

D. Participates in Meetings. Participates in Industry Steering Committee (ISC) meetings. Reviews the Maintenance Steering Group (MSG) analysis presented by the Working Groups (WG) and approved by the ISC.

E. Approves MRBR. Approve the MRBR after Aircraft Maintenance Division (AFS-300) concurrence. (The manufacturer is responsible for publishing and distributing initial and revised MRB reports as well as any supporting documents.)

8-153 COMPOSITION OF AN MRB. An MRB includes a chairperson from the appropriate Aircraft Evaluation Group (AEG). The MRB Chairperson invites qualified aviation safety inspectors (ASI) from the field to participate as FAA WG members/advisors. The MRB Chairperson is a FAA representative to the ISC. FAA advisors should include FAA engineering/design staff.

8-154 MRB PROCESS.

A. Policy Procedures Handbook (PPH). The aircraft manufacturer provides a proposed PPH which is further developed, reviewed, and approved by the ISC. The OEM/TCH is also the ISC Co-chairperson. The OEM provides the draft PPH. The ISC further refines and approves. The recommended contents of the PPH include required training criteria and rules on how to conduct the MRB/ISC and the basis for inspection intervals, analysis processes, regulatory authority participation, etc.

B. Obtaining Acceptance. Following approval of the PPH by the ISC, the PPH will be submitted to the MRB Chairperson for acceptance. Upon receipt and review, the MRB Chairperson will initiate an acceptance letter, concurred with by the chairperson management and signed by the MRB Chairperson. This letter will be forwarded to the ISC Chairperson. The ISC will obtain acceptance by the FAA of the PPH prior to commencing any and all WG activities.

NOTE: Further clarification and guidance is provided in AC 121-22.

8-155 REGULATORY AUTHORITY PARTICIPATION.

A. General. Regulatory authority participation will fall into one of the following categories:

- U.S.-manufactured aircraft with other regulatory authority participation.
- Foreign-manufactured aircraft with FAA and other regulatory authority participation.

B. Conditions. The following conditions will apply:

1) The regulatory authority of the country of manufacture will normally provide the MRB Chairperson and the MRB members.

2) A letter of confirmation between the FAA and each participating regulatory authority will be in place with the host authority prior to the commencement of any MRB activities. The FAA will include the following items:

- The extent of participation by other regulatory authorities in the MRB process.
- The host authority will be the primary accepting authority for the MRBR and subsequent revisions; state in the report other regulatory authority acceptance confirmations of the MRBR and any revisions.

3) For United States OEM/TCH the FAA will assign an MRB Chairperson. Foreign regulatory authorities may be invited to participate as determined between the MRB and ISC chairpersons.

4) Unless specifically stated in the letter of confirmation, policy contained in these MRB procedures will apply.

5) Participation of other regulatory authorities will be necessary if an authority expects to contribute to or influence the outcome of the MRBR.

6) MRB members/advisors concurrence with WG recommendations is not a prerequisite to the submittal of the recommendations to the ISC. However, the WG meeting minutes will document a lack of concurrence between the MRB members/advisors.

C. Duties and Responsibilities. The duties and responsibilities of the MRB members and the other regulatory authorities are as follows:

1) MRB members:

- Attend WG meetings and provide guidance to the WG members.
- Attend MRB meetings convened by the MRB Chairperson.
- Provide scheduled progress reports to the MRB Chairperson that contain an assessment of WG activities, including notification of controversial or potential problem areas.

NOTE: WG advisors may include regulatory staff from engineering/design certification branches.

NOTE: An MRB advisor will serve as an MRB member in cases when only one MRB advisor is assigned to a WG.

2) Other regulatory authorities:

a) Participate in the MRB and/or WG activities as provided by the letter of confirmation between the regulatory authority and the FAA.

b) Attend ISC meetings by invitation from the ISC Chairperson and concurrence of the MRB Chairperson.

c) Identify to the ISC Chairperson through the MRB Chairperson, prior to compiling the MRBR proposal, any national regulatory authority differences that will be included in an appendix of the MRBR.

d) Acknowledge acceptance of the MRBR in the manner outlined in the letter of confirmation and in the PPH.

e) Review WG meeting minutes and provide, to the MRB Chairperson, an assessment or notification of controversial or potential problem areas prior to the next scheduled ISC meeting.

8-156 POLICY FOR THE IMPLEMENTATION AND OPTIMIZATION OF MRBR TASKING INTERVALS.

A. Background.

1) Since February 28, 2008, a WG made up of members from the AEG and International Maintenance Review Board Policy Board (IMRBPB) has met in Long Beach, California. This WG exists to discuss process shortcomings regarding OEM/TCH evolution/optimization of tasks as they relate to the MRBR.

2) On March 31, 2008, the Issue Paper 44 WG convened in Ottawa, Canada to discuss and assemble the document for presentation at the International Policy Board in May 2008. The WG reached concurrence and posted a final copy on the International Policy Board Web site. The acceptance took place at the IMRBPB meeting in April 2008.

B. Related Documents (current editions).

- AC 121-22.
- Issue Paper 44, Evolution/Optimization Guidelines.

C. Policy Statement.

1) An OEM/TCH Data Collection System. The OEM/TCH should have a system in place that allows for the collection of data generated during an operator's task accomplishment for delivery to the OEM/TCH and entry in a standardized format into their data collection system. The OEM data collection system should have a data communication process/facility that also includes:

a) A data storage infrastructure (electronic, manual, etc.), and

b) A data management system (revision control, access control, etc.).

2) MRBR/TCH Utilization of a Standardized Format. MRBR task evolution/optimization must be based on worldwide representative samples that span the operating environment and age groupings of the aircraft. The OEM/TCH must utilize in-service data in a standardized format (Airlines for America (A4A) SPEC 2000 digital format or equivalent), to ensure data quality and integrity.

a) OEM must demonstrate that the collection or conversion of the operator's data occurs in SPEC 2000 format or equivalent. An equivalent format may be acceptable if the following requirements are met:

1. All operators use a standard format when submitting data to ensure data integrity.

2. The data should be in electronic format.

3. The data elements have clear definitions to facilitate an analysis comparison.

4. The required data fields are available to support statistical analysis and engineering evaluation.

5. The design of the data attributes is based on SPEC 2000 definitions.

6. The operators must incorporate the formats/templates they use for in-service data collection into the PPH.

b) OEM/TCH must have a data quality system in place. The system should be able to:

1. Validate incoming data to ensure that data format/content conforms to the standard.

2. Generate quality control (QC) and audit reports and take corrective actions, as necessary.

3. Original data should remain unchanged throughout the process.

4. Be accessible as needed.

c) The data collected and used by the OEM/TCH regarding evolution/optimization must include the following information:

1. Number of tasks accomplished.

2. Interval of tasks findings applied.

3. Component data (shop findings, no-fault-found removals and failures), if available.

4. The OEM/TCH should capture and evaluate the aircraft utilization (flight hours, cycles, calendar-days, as applicable).

5. Unscheduled maintenance findings, as applicable.

6. Scheduled maintenance findings:

a. Routine maintenance tasks that generate no findings.

b. Routine maintenance tasks that generate findings.

c. Unrelated significant findings, if applicable.

d. Four digit A4A code, if available.

e. Serial number of aircraft.

d) To the extent possible, the OEM/TCH should capture consecutive task check data to assess reliability of aircraft systems, components, or structural elements related to the MRBR task. This requirement may be applied to lower interval tasks.

1. Evaluate in-service data both scheduled and unscheduled maintenance findings related to the intent of the Maintenance Steering Group - 3rd Task Force (MSG-3).

2. Link scheduled maintenance findings and in-service findings to appropriate MRBR tasks, as applicable.

3. Review unscheduled maintenance findings, and the resulting corrective actions captured from pilot reports and maintenance reports, as applicable.

4. Operators should capture significant non-routine write-ups generated in the course of an unrelated maintenance task, if applicable.

e) MRB optimization should be on a task-by-task basis. OEM must develop a statistical analysis methodology that is acceptable to the FAA.

NOTE: Intervals, tasks, and procedures such as airworthiness limitations (AL) and Certification Maintenance Requirements (CMR) are type certification requirements and may not be optimized or deleted. Reference the current edition of AC 25.1309-1, System Design and Analysis.

1. Risk management (RM) should be the basis for interval evolution/optimization. RM is the systematic application of management policies, procedures, and practices to the tasks of identifying, analyzing, evaluating, treating, and monitoring risk.

2. MRBR task interval optimization has its basis in principles that reflect the criticality of airplane systems and components, identified during MSG-3 analysis. Account for Failure Effect Categories (FEC) during the analysis.

3. You can escalate MRB task intervals based on the results of in-service experience. In addition, de-escalate tasks when in-service data supports interval reductions. You may also delete a task upon determination that the task is ineffective or the failure mode for which the task was selected never developed due to effective design provisions.

4. Task deletion, addition, or modification of intent requires new/revised/amended MSG-3 analysis.

5. The intervals of potential failure finding tasks (i.e., those looking for degradation) should be between the point at which a potential failure becomes detectable and the

point at which it degrades into a functional failure. Assess consecutive task accomplishments to show that failures are not occurring before the new initial interval.

f) OEM statistical methods must be able to determine the right amount of data is available to provide 95 percent confidence level.

1. In a data-driven statistical decisionmaking process, the level of confidence is the basis for the determination of data sample size.

2. Confidence level refers to the likelihood that the overall fleet performance lies within the range specified by the sample fleet performance. The confidence level is usually expressed as a percentage. For example, a 95 percent confidence level implies that the probability that the fleet parameter lies within the confidence interval is 0.95.

3. For a given confidence level, data size may vary depending on the fleet size and variability of in-service data.

4. The basis of MRB task evolution must be in-service data collected from a representative sample of older as well as newer aircraft (i.e., aircraft age) incorporating more current production standards and modifications. The analysis report will summarize the fleet age representation.

5. Geographical or Operational Environment Representation, as appropriate, in-service data collected from a representative sample which spans statistically significant operating environments as the basis for MRB task interval adjustments.

6. Consider MRB task interval adjustments after accumulating sufficient service experience since entry into service. Subsequent task interval adjustments may be considered after accumulating additional service experience since the last interval adjustment. In both cases, measure data sufficiency by the level of confidence as stipulated in these guidelines.

7. OEM/TCH must develop and implement a statistical analysis system to provide justification that a 95 percent level of confidence exists for the evolution/optimization exercise on a task-by-task basis. You can present exceptions and the Airworthiness Authorities may approve them at their discretion.

8. The OEM/TCH must collect sufficient data that would support the expected confidence level. However, engineering judgment will remain a part of the evaluation.

g) Operator’s and regulator’s feedback must be documented, reviewed, and analyzed.

1. OEM/TCH must develop and implement internal quality procedures to review and validate MRBR revision process as defined in the PPH.

2. OEM/TCH will develop and implement an internal process to validate MRBR revised tasks and/or intervals resulting from evolution or demonstrate that an equivalent written internal process already exists to reach the same intent.

3. The OEM/TCH applicant must notify the FAA in writing of his/her intent to begin an evolution/optimization process. This will be in the form of an official correspondence or other communication media as defined in the PPH.

4. The FAA will respond, in writing, to the OEM/TCH of their intent to participate in the evolution/optimization exercise for a given fleet or model.

h) You must use this guideline as the basis for a PPH procedure when the OEM/TCH, MRB, and ISC wish to proceed with evolution/optimization regarding the MRBR process.

1. OEM/TCH must define further details and procedure clarifications in the PPH. Each OEM/TCH may adopt the same evolution/optimization processes for all ISC/MRB PPH, and for all models, as demonstrated and accepted by FAA. The PPH is a living document; a response must be given within 60 days after ISC acceptance/OEM submission. Where applicable, the MRB/ISC must coordinate and approve PPH revisions.

2. OEM/TCH must include within the PPH the policy requirements and criteria as contained within this document.

3. OEM/TCH must further define the details and procedural actions necessary to conduct the evolution/optimization exercise. You must coordinate this plan with, and have it approved by, the MRB/ISC.

4. Where documents that support the evolution/optimization are incorporated by reference within the PPH, state the current document number and revision number.

RESERVED. Paragraphs 8-157 through 8-170.

VOLUME 8 GENERAL TECHNICAL FUNCTIONS

CHAPTER 2 TECHNICAL GROUPS, BOARDS, AND NATIONAL RESOURCES

Section 9 Aircraft Evaluation Group Outreach in the Airworthiness Directives Process

8-2-9-1 INTRODUCTION.

A. Purpose. The section establishes the Aircraft Evaluation Group's (AEG) roles and responsibilities regarding outreach during the development and implementation of an Airworthiness Directive (AD). The outreach process is to provide technical information regarding pending ADs to the appropriate certificate-holding district offices (CHDO). An AEG outreach program is a key communication and coordination tool among Flight Standards Service (AFS), Aircraft Certification Service (AIR), Original Equipment Manufacturers (OEM)/design approval holders (DAH), and operators. This technical information and communications will help the CHDO support operators' AD management process.

B. General. The AEG is an AFS organization responsible for determining the operational suitability of newly certificated and modified aircraft. The AEG plays a critical role in pilot qualifications, flightcrew training, minimum equipment lists (MEL), and continuing airworthiness requirements. The AEG is instrumental in reviewing and determining the operational suitability of ADs by providing consultation, coordination, and assistance to the Aviation Safety Engineer (ASE), who develops ADs. The AEG's assigned AD process responsibilities include:

1) Providing an operational/maintenance perspective to the AD development process.

2) Providing technical consultation to the Federal Aviation Administration's (FAA) certificate management offices (CMO).

3) Serving as a liaison with the Aircraft Certification Office (ACO).

4) Acting as an intermediary between the OEMs/DAHs and the CMOs for distributing service instructions and other forms of alerts (e.g., all Operator Letters and Maintenance Alerts).

C. Background.

1) On September 2, 2008, an Independent Review Team (IRT), appointed by then-Secretary of Transportation Mary E. Peters, published a report titled "Managing Risks in Civil Aviation: A Review of the FAA's Approach to Safety." This report evaluated and recommended improvements to the FAA's safety culture and its aviation safety system.

2) As a result of the events of noncompliance and from the FAA audit, the FAA created an AD Compliance Review Team, which completed two reports titled "Airworthiness Directives Process Review" (published June 3, 2009 and July 8, 2009). These reports reviewed the process of developing and implementing ADs and ensuring compliance. The reports included

several findings and recommendations, one of which involved the need for the AEG to be more involved in developing and implementing ADs. The Compliance Review Team also found that the FAA field offices did not communicate with the AEGs on AD issues, nor did they communicate with ACOs when AD compliance issues arose.

3) To address these findings and to prevent future disagreements between the FAA and operators, the FAA created guidance regarding AEGs and their roles in the AD process.

8-2-9-3 AEG OUTREACH.

A. Determining Outreach. An AD is written when an unsafe condition exists in a product (e.g., aircraft, engine, propeller, or appliance) and is likely to exist or develop in other products of the same type design. The ASE generates an AD worksheet, which requires coordination with the AEG focal, per the current edition of FAA-IR-M-8040.1, Airworthiness Directives Manual. At this time, the AEG will conduct an analysis, as detailed in subparagraph 8-2-9-3D1), and determine if AEG outreach is required.

B. Role of the AEG. The AEG serves in a pivotal role in coordination among ACOs and/or directorates and aviation safety inspectors (ASI) during AD development. Each group is invested in monitoring airworthiness concerns, identifying unsafe conditions, and developing and implementing effective corrective actions to maintain the trust of the traveling public.

C. Elements of an AEG Outreach Program. While an AEG outreach program can be tailored to specific needs, it should contain, at a minimum, the following elements:

- Outreach Analysis: Determine if outreach is needed and, if so, which operators are affected.
- Research: Contact the CHDO to gather information about the Service Bulletin (SB) and the accomplishment of the SB's incorporation by reference into the AD.
- Collaboration: Work with the affected CHDO to ensure the AD is understood and also to answer any questions from the field.
- Response: The AEG provides feedback to the ACO regarding any operational suitability issues that arise from an outreach.

D. Implementing the Elements of an AEG Outreach Program. The AEG implements an outreach program during the development of an AD as outlined in FAA-IR-M-8040.1, chapter 6. The outreach should occur as early as possible in the SB and AD development activity to ensure that any feedback regarding operational suitability can be addressed without impacting timely AD issuance. The following paragraphs outline when the four elements of an AEG outreach program should take place during the AD development process.

1) Outreach Analysis. The AEG determines during the AD worksheet drafting phase if outreach is needed (refer to FAA-IR-M-8040.1, chapter 6, paragraph 2). As seen in Figure 8-23, Flowchart for Determining Aircraft Evaluation Group Outreach, outreach may be needed if any one of the following conditions exists:

- Requirements of the AD are not easily understandable and supporting policy/guidance is not available;
- Compliance with the AD requires new/novel concepts (e.g., new inspection techniques or new maintenance process) that can hinder compliance with the AD; or
- The intent, scope, or content of the AD is based on assumptions that could be invalidated by foreseeable technology changes (e.g., innovative processes within Nondestructive Testing (NDT), or new materials).

2) Research. While an AD is being drafted (refer to FAA-IR-M-8040.1, chapter 6, paragraph 3), the AEG will determine the affected CHDOs and will gather information regarding the SB for the AD and determine how it would affect AD implementation.

NOTE: ASIs should be aware that Sensitive Security Information (SSI) AD guidance is located in Volume 6, Chapter 2, Section 36.

3) Collaboration. While an AD is in the review and coordination phase (refer to FAA-IR-M-8040.1, chapter 6, paragraph 5), the AEG communicates and works with the affected CHDOs to ensure the requirements of the AD and referenced SB are understood and provides further guidance, if needed. The AEG should determine if assistance is needed from the ACO in presenting AD requirements.

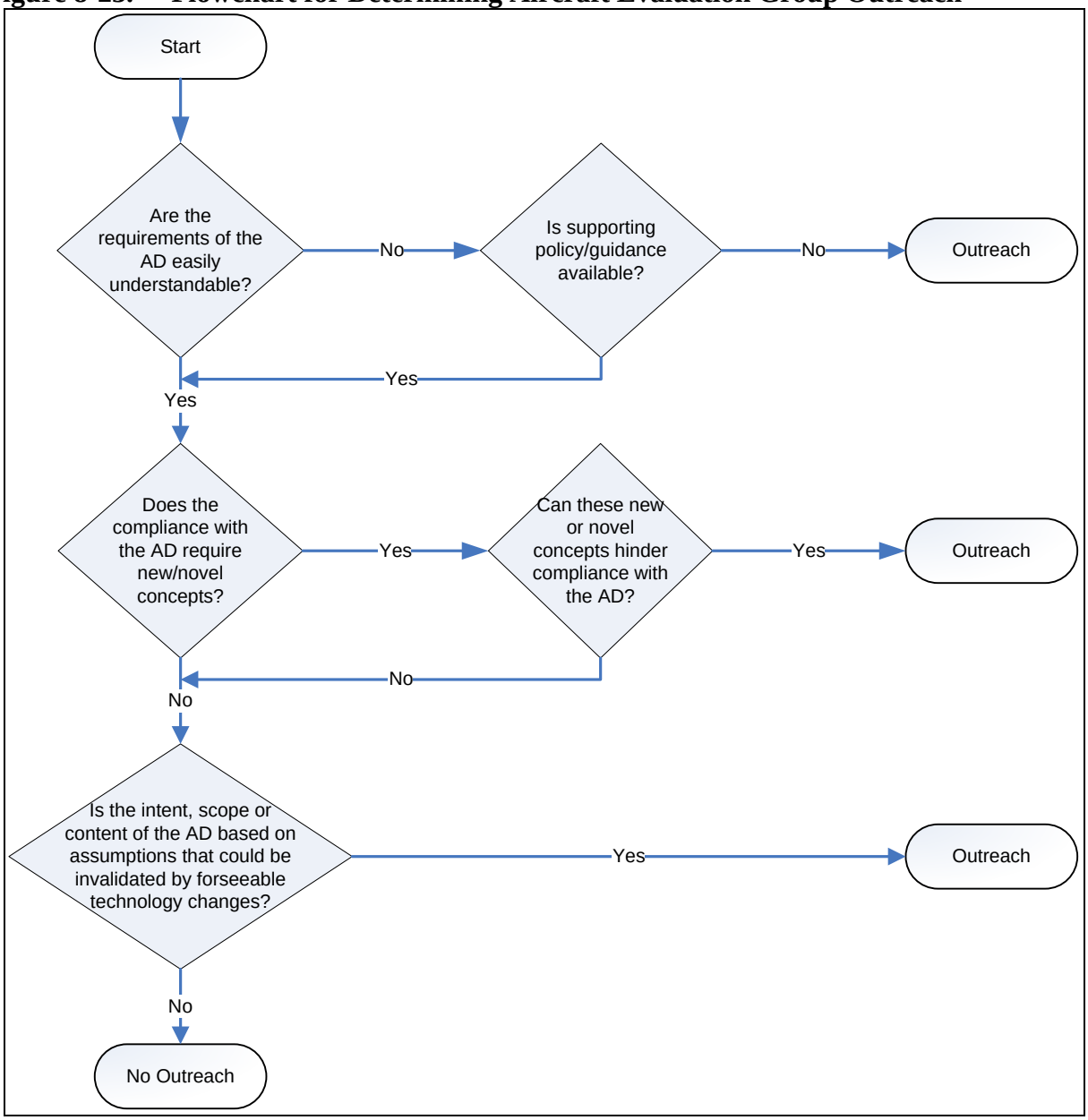
4) Response. The AEG provides feedback to the ACO regarding operational suitability issues that arise during the outreach process. Note that the AEG feedback should be done before an AD is signed (refer to FAA-IR-M-8040.1, chapter 6, paragraph 7).

NOTE: According to Title 14 of the Code of Federal Regulations (14 CFR) part 11 appendix 1, ex parte contact occurs when “not all parties to an issue were present when it was discussed. An ex parte contact involving rulemaking is any communication between FAA and someone outside the government regarding a specific rulemaking proceeding, before” the publication of a final rule or the withdrawal of a notice of proposed rulemaking (NPRM).

E. Incorporating Outreach in AEG Policies and Procedures. The AEG should develop a process that defines its policies and procedures to incorporate the AEG outreach process and communicate with the affected CHDOs and ACOs. This process should address:

- How to activate outreach.
- Which groups to provide outreach.
- What technical concerns the outreach will address.
- How to communicate and coordinate information during outreach.

Figure 8-23. Flowchart for Determining Aircraft Evaluation Group Outreach

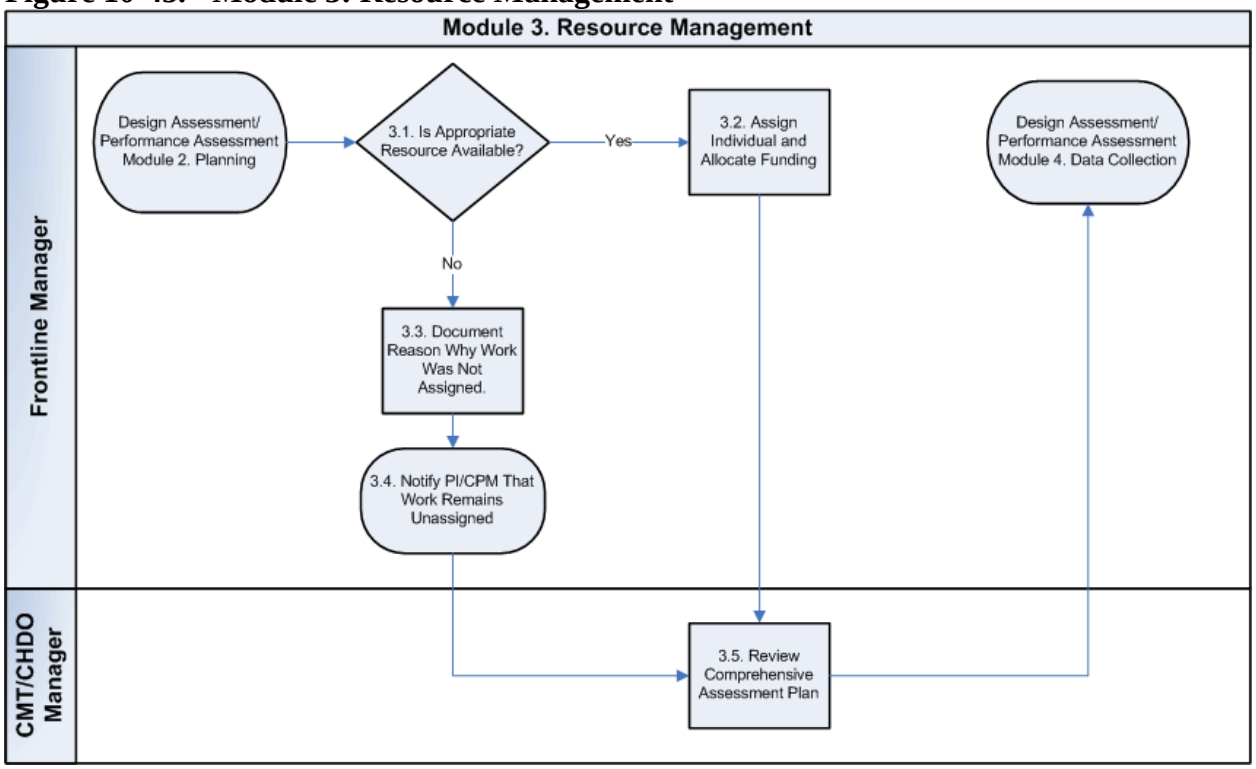


VOLUME 10 AIR TRANSPORTATION OVERSIGHT SYSTEM

CHAPTER 2 PROCEDURES FOR DESIGN AND PERFORMANCE ASSESSMENT

Section 3 Design and Performance Assessment Resource Management

Figure 10-45. Module 3: Resource Management



10-142 RESOURCE MANAGEMENT.

A. Introduction. Resource management is an ongoing process to ensure that available resources are assigned to the highest risk priorities identified in the Comprehensive Assessment Plan (CAP) for continuing operational safety. By comparing the prioritized CAP and available resources, managers ensure that available resources are assigned to tasks with the highest safety priority for a given quarter. Prioritizing and assigning resources based on risk is a critical aspect of the Air Transportation Oversight System (ATOS). CAPs are created independent of resources. Quarterly work programs consist of Design Assessments (DA) and Performance Assessments (PA) that are assigned to inspectors. Unassigned DAs and PAs are eventually documented as work not accomplished because resources are not available.

B. Insufficient Resource Availability. Allocate funding to complete the job at the same time the individual is assigned. If resources are not available, the manager leaves the work unassigned and documents the reasons why. The principal inspector (PI) or certification project manager (CPM) receives notification that the work was not assigned. When insufficient resources are available to complete all the work, the Front Line Manager (FLM) uses the CAP to establish priority when making assignments.

10-143 AVAILABILITY OF APPROPRIATE RESOURCE. The FLM evaluates the CAP against the roster of the Certificate Management Team (CMT) or the Certification Project Team (CPT) to determine whether the appropriate resources are available to accomplish the assessment activities. The FLM considers scheduled leave, scheduled training, training requirements, and other potential constraints. For a certification project, the certificate-holding district office (CHDO) and the Regional Office (RO) determine adequate resource availability during the initial evaluation per the Certification Services Oversight Process (CSOP). The manager should consider the availability of the Flight Standards National Field Office (AFS-900) Certificate Program Office, and regional and national specialist availability (e.g., resource pilot support). (Refer to flowchart process step 3.1.)

A. Roster Maintenance. The manager ensures that the roster accurately reflects CMT or CPT membership as active qualified, active nonqualified, or inactive. The manager ensures CMT members do not remain on the roster when an operator surrenders its certificate.

1) Qualified Members. Active, qualified members are assigned to the CMT or CPT and meet the baseline training requirements for their assigned position. (Refer to paragraph 10-144 for baseline requirements.)

2) Nonqualified Members. Active, nonqualified members assigned to the CMT or CPT that have not completed baseline training requirements. (Refer to paragraph 10-144 for baseline requirements.)

3) Inactive Members. Inactive members are no longer assigned or available to the CMT or CPT.

NOTE: In the case of an FLM of shared resources who only assigns work, the Air Carrier-Specific Familiarization Briefing is not a requirement. If the FLM performs data review functions or conducts Safety Attribute Inspections (SAI), Element Performance Inspections (EPI), or Constructed Dynamic Observation Reports (ConDOR), then the Air Carrier-Specific Familiarization Briefing is required.

B. CMT Staffing. A dedicated CMT has oversight responsibility for each air carrier. The CMT develops and executes a CAP tailored to that air carrier. CMT staffing includes specific minimum required positions. Depending on air carrier complexity, additional positions may be necessary. The following individual position titles identify each required position:

1) CMT Manager (Required Position). The CMT manager is the office, section, or unit manager with overall responsibility for air carrier certificate management. The CMT manager is an advocate for ATOS policies, processes, and their integration into the business strategies and operations of the office. The manager will assign inspector resources to the highest safety priorities for a given quarter.

2) FLM(s). FLMs directly supervise, assign, and review the work of CMT members.

3) Principal Operations Inspector (POI), Principal Maintenance Inspector (PMI), and Principal Avionics Inspector (PAI) (Required Position). A PI should not be

assigned to more than one Title 14 of the Code of Federal Regulations (14 CFR) part 121 air carrier CMT.

4) Data Reviewer/Data Evaluation Program Manager (DEPM) (Required Position). A DEPM may be assigned to the CMT as a shared resource. In the absence of a DEPM, an FLM can serve as a data reviewer. The DEPM reports to an FLM above the PI. The data reviewer/DEPM must be qualified as an air carrier inspector. A DEPM should be assigned to no more than four CMTs. Shared DEPMs report to only one CMT manager and only one FLM, as determined by their RO.

5) Aviation Safety Inspectors (ASI). All ASIs assigned to the air carrier certificate are members of the CMT. ASIs are generally located at the CHDO or certificate management office (CMO), but more than one CMT can share them. Assigned ASIs can include those from the following areas of expertise: flight operations, maintenance, avionics, cabin safety, and dispatch. Each CMT has at least one ASI-Cabin Safety (ASI-CS), and one ASI-Aircraft Dispatcher (ASI-AD) (required positions). The ASI-CS and ASI-AD may be shared resources. Priority assignment must be a consideration to support CMTs with oversight responsibility of air carriers involved in passenger carriage.

a) Shared ASIs. The CMT office manager may approve the use of shared ASIs. Management should not assign an ASI to more than four CMTs. Shared ASIs report to only one CMT manager and only one FLM, as determined by their RO. The ASIs FLM will make the final decision when there is conflict over work requests.

b) Requirements for Remotely Sited Positions. Under certain circumstances, ASIs may have a base location other than the CHDO or CMO. Regional division managers are responsible for establishing and approving remotely sited positions.

1. Regional division managers establish these positions only for situations where the air carrier has very large, noncontract training or maintenance centers located far from the CHDO.

2. A remotely sited position may also be necessary with the expectation of an ongoing, full person-year of data collection for DAs and PAs associated with the CAP.

3. As the focus of ATOS is on systems-based assessments rather than event- or activity-based assessments, air carrier hubs and employee domiciles are not the sole consideration in this determination.

6) Operations Research Analyst (ORA). An ORA is assigned to each CMT. Regional or national analysts may provide analytical support.

7) Aviation Safety Technicians (AST) and Aviation Safety Assistants (ASA). If ASTs and ASAs are assigned to the air carrier certificate, then they are members of the CMT.

C. CPT Staffing. A CPT is assigned to each initial certification project before the applicant initiating formal application. The CPT develops and executes a CAP that is tailored to that applicant.

1) General CPT Requirements. For air carriers certificated to operate under part 121, existing part 121 PIs are not used for new certification activities. Other ASIs currently assigned to a part 121 CMT may participate in new certification activities, to the extent that it does not compromise existing operator oversight. Available staffing for post-certification should exist or be reasonably projected to be available through reassignments or merit promotion selections. Existing part 121 PIs should not be used for new part 121 certification activities. Other ASIs currently assigned to a part 121 CMT may participate in new certification activities. CPTs for part 121 certification use only inspectors assigned to an air carrier position description.

2) CPT Members. CPT members include:

a) CPM. The CHDO manager designates one member of the certification team to serve as the CPM. The person designated as CPM should have completed the baseline training and should have previous experience in certifying an air carrier under part 121. A person designated as CPM should have experience as a PI.

b) Certification Team Leader (CTL). The AFS-900 Certification Program Office assigns a CTL and team members to each certification project. This person works with the CPM to communicate and coordinate all certification team activities and ensure adherence to the Certification Process Document (CPD).

c) Certification Team Members. The certification team should consist of at least an operations inspector, a maintenance inspector, and an avionics inspector. Each certification project that involves passenger carriage has at least one ASI-CS assigned. If the certification is for a cargo-only operation, the certification team must consider cabin safety issues if the applicant has provisions or procedures for carriage of passengers specified in § 121.583(a). It is a requirement to use an ASI-AD. For each proposed aircraft type, there should be an operations inspector assigned to the team who is qualified in that aircraft type.

10-144 BASELINE TRAINING. An inspector may be assigned to a CMT or CPT before receiving baseline training, but inspectors cannot be assigned a SAI or EPI, or ConDOR until they have received the baseline training. Baseline training is a combination of multiple prerequisite courses and any additional curricula that the CMT/CPT defines. The prerequisite course material is unique to each inspector specialty. Baseline training encompasses:

- All courses of all phases of the initial or transition air carrier training string for the inspector's specialty, including:

  - ATOS 1.2 Interactive Training for ASIs.
  - Safety management course.

- ATOS 1.2 Interactive Training for PIs and Managers (required for all new PIs and managers).
- Other training. (See paragraph 10-146.) CMT Operations and Airworthiness inspectors programmed for their training may perform data collection activities.

NOTE: In the case of an FLM of shared resources who only assigns work, the Air Carrier-Specific Familiarization Briefing is not required. If the FLM performs data review functions or conducts SAIs, EPIs, or ConDORs, then the Air Carrier-Specific Familiarization Briefing is a requirement.

10-145 AIR CARRIER-SPECIFIC FAMILIARIZATION BRIEFING. ASIs are provided the Air Carrier-Specific Familiarization Briefing upon initial assignment to an ATOS CMT. (See Figure 10-46, Air Carrier-Specific Familiarization Briefing Outline of Subjects, for recommended topics.) The Federal Aviation Administration (FAA) considers inspectors assigned to a CPT or who were assigned to the air carrier when it transitioned to ATOS to have already received the required initial Air Carrier-Specific Familiarization Briefing during the certification or transition processes.

A. Applicability. Inspectors assigned to CMTs receive briefings in the general topics and subjects that are specific for their specialty. DEPMs receive briefings in the general topics and subjects specific to operations, cabin safety, maintenance, and avionics.

B. Methodologies. A combination of lectures, site visits, and directed self-study presents the air carrier-specific outline. The manager may decide to conduct the briefings one on one, or for a group of new CMT members. The FAA recommends completing the direct self-study during normal working hours. The FAA does not recommend using more than 50 percent of the recommended programmed hour requirements as directed self-study.

C. Recommended Curriculum. Figure 10-46 contains a standard curriculum. The CMT manager determines which subjects are applicable to the air carrier's operations and determines the amount of lecture and self-study hours.

D. Briefing Presenters. Inspectors assigned to the CMT with expertise in the covered subject will conduct lecture portions of the Air Carrier-Specific Familiarization Briefings. For those CMT members who provide the Air Carrier-Specific Familiarization Briefings, electronic Learning Management System (eLMS) courses, Communications Skills to Fast-Track Your Career (PD0133_SKILLSOFT), Available Presentation Resources (comm._05_a03_bs_enus), and Presenting Successfully (comm._05_a01_bs_enus) are available to enhance your presentation skills. Contact your Administrative Officer (AO) if you need assistance enrolling in any of these courses.

E. Assessment. An open-book, oral, or written quiz determines satisfactory completion of the briefings.

F. Recordkeeping. Each CMT will maintain a copy of its Air Carrier-Specific Familiarization Briefing outline and any self-study materials. The CMT documents successful completion of the initial Air Carrier-Specific Familiarization Briefing (eLMS course number 21000001) for each CMT member.

G. Funding. Each CMT is responsible for the costs associated with completing the Air Carrier-Specific Familiarization Briefings.

10-146 OTHER TRAINING.

A. Operations Inspector Initial Training. All CMT Operations inspectors are programmed to receive initial training and a type rating in an aircraft type operated by their assigned air carrier, unless an inspector already holds a type rating for an aircraft type operated by their currently assigned air carrier. CMT Operations inspectors may be programmed to receive recurrent training as required by their assigned responsibilities. CMT Operations inspectors may perform data collection activities if they are programmed for the training.

B. Airworthiness Inspector Initial Training. All CMT Airworthiness inspectors are programmed to receive initial systems training appropriate to their avionics or maintenance specialty in an aircraft type operated by their assigned air carrier. CMT Airworthiness inspectors may perform data collection activities if they are programmed for the training.

NOTE: The provisions of subparagraphs 10-146A or B apply to DEPMs only if they are assigned data collection activities.

C. ASIs Not Assigned to a CMT. The following are requirements to conduct ATOS random inspections:

1) Substituting Earlier ATOS Training. ASIs may not substitute earlier ATOS training.

2) Qualifications. Operations and Airworthiness inspectors not assigned to an ATOS CMT must have qualifications on an aircraft used in part 121 operations, but do not need qualifications on the inspected aircraft.

3) Air Carrier-Specific Familiarization Briefing. ASIs who have not received air carrier-specific familiarization briefing on the inspected air carrier should limit their observations to generic regulatory compliance issues.

D. Briefing on the CPD. Inspectors assigned to a CPT receive briefings on the CPD (see Volume 10, Chapter 6, Section 2, Certification Process Document).

E. ORA Training. ORAs receive the following training, as required: indoctrination, Safety Performance Analysis System (SPAS), ATOS baseline training, and training for data-rich

carrier programs as needed (e.g., Advanced Qualification Program (AQP), Aviation Safety/Accident Prevention, and Maintenance Reliability).

10-147 ASSIGN INDIVIDUAL AND ALLOCATE FUNDING. When the appropriate resource is available based on staffing, training, and funding, the FLM assigns the inspector to the appropriate work assignment and allocates funding. (See flowchart process step 3.2.)

A. Resource Management by FLM. The FLM assigns and utilizes resources in accordance with the prioritization identified by the PI or CPM in the CAP. FLMs should also consider relevant certificate factors when making work assignments, particularly when CMTs share resources. Factors to consider when comparing work requests from two or more CMTs include:

- Enplanements and departures,
- Length of time the carrier held the certificate,
- Fleet size, type, and age,
- Utilization rate,
- Route structure (number of stations, number of FAA regions),
- Type of operation (effect on flying public),
- Number of approved programs (complexity),
- Maintenance contracts,
- Training contracts,
- Crew domiciles,
- Multiple certificate management responsibilities of principals, and
- Wet and dry lease.

B. Other Considerations for Assigning Work to CMT or CPT Inspectors.

1) CAP. The CAP is the only part 121 assessment work program assigned. It is an option to assign work to inspectors according to Volume 11, Chapter 11, Section 1, Flight Standards Geographic Program, in addition to data collection activities for the assigned CMTs. (Refer to the current edition of FAA Order 1800.56, National Flight Standards Work Program Guidelines and Notice 8900.174, Flight Standards Geographic Surveillance Program for 14 CFR Parts 121, 129, and 135-Phase 2.)

2) FLM. The FLM can redirect work assignments from one CMT or CPT member to another.

10-148 ASSIGNMENTS FOR DA OR PA.

A. PI Instructions. PIs should provide detailed instructions to assist the manager or FLM in identifying appropriate individuals to assign to SAIs, EPIs, and ConDORs. The manager or FLM should consider inspector training, experience, qualifications, geographic location, availability, and workload.

B. DCT-Specific Instructions. Some DCTs may contain specific instructions for additional training, experience, or qualifications that may be helpful in determining inspector

assignments. Specific instructions may also include additional references, background information, manuals, or other system document that should be reviewed, as well as suggestions for specific types of activities and/or reporting instructions.

C. Inspector Assignments Can Be Changed Anytime. Assignment changes may include switching from unassigned to assigned or vice versa, and reassigning an assessment from one inspector to another. It is permissible to change inspector assignments for EPIs or SAIs even if work has already begun. Copy work completed prior to changes to prevent the loss of data. The FLM should contact the Help Desk for assistance and a ticket number for tracking.

10-149 CONSIDERATIONS SPECIFIC TO ASSIGNING AN SAI. The FLM assigns SAI team coordinators (TC) and SAI team members. The FLM may assign an SAI to a single inspector. In that case, the inspector is also the TC. To help the FLM identify appropriate individuals to assign to SAI teams, PIs or CPMs should provide detailed instructions. The FLM should consider inspector training, experience, qualifications, geographic location, availability, and workload.

A. The SAI TC. The SAI TC organizes and coordinates SAI team activities. The TC ensures that activities, such as air carrier personnel interviews, are not redundant and that team members complete all activities to accurately answer the questions on the SAI. The TC is a leadership role that should be assigned to an experienced inspector with a solid knowledge of the air carrier. The TC should have a base location near where most SAI activities will take place.

B. SAI Team Members. Inspectors who have varied backgrounds and experience, and are from different geographic locations can comprise a team. SAI teams should always contain inspectors with a sufficient knowledge base to assess the element accurately. The inspector(s) designated to complete the SAI should be appropriately trained and knowledgeable on subjects related to the element.

10-150 DOCUMENT REASONS WHY WORK WAS NOT ASSIGNED. The FLM assigns work based on the CAP priorities for a given quarter until no resources remain. If appropriate resources are not available to complete the entire CAP, the FLM documents why he or she did not assign the remaining work. This ensures that work that remains unassigned is documented for evaluation in a future planning cycle. (See flowchart process step 3.3.)

10-151 NOTIFY THE PI OR CPM THAT WORK REMAINS UNASSIGNED. The FLM notifies the PI or CPM of any work that remains unassigned. (See flowchart process step 3.4.)

10-152 REVIEW THE CAP. After developing the CAP, document the data collection requirements using detailed work instructions. Assign or identify as unassigned all of the data collection activities. The CMT or CPT manager will then review the plan.
(See flowchart process step 3.5.)

A. Justification of Risk Priority. The review ensures that the CAP is risk-based, and that priorities form the basis for work assignments. The CMT or CPT manager will review the CAP to ensure the elements are prioritized according to risk, or proper justification has been entered for elements not prioritized according to risk.

B. Adjust the Plan. A CMT or CPT manager that does not concur with the oversight requirements, priorities, or resource decisions should discuss the issue with the PI and the FLMs. The PI may adjust the plan as necessary. The PI can enter a comment in the plan that explains the reason for an adjustment.

10-153 ONGOING RESOURCE MANAGEMENT. Resource management is a continual task for the CMT or CPT. FLMs should continue to evaluate resources for work plans, and consider the needs of special data collection and assessment activities, such as ConDORs and Risk Management Processes (RMP).

10-154 INCOMPLETE WORK RESULTING FROM AN INSPECTOR LEAVING THE CMT OR CPT, OR BEING UNAVAILABLE TO FINALIZE HIS/HER WORK. The FLM will ensure that before an inspector leaves the CMT or CPT, he or she will finalize all work in progress. If the inspector is unavailable to complete the work in progress, the FLM finalizes the records, reassigns the work, or initiates the removal process for an incomplete record.

Figure 10-46. Air Carrier-Specific Familiarization Briefing Outline of Subjects

General Topics—All Specialties (Recommended Minimum Hours—8)	
1. OVERVIEW OF AIR CARRIER. a. Brief History. (1) Mergers. (2) Acquisitions. (3) Financial status (i.e., bankruptcies). (4) Compliance attitude. (5) Corporate headquarters location. (6) Main base location. (7) Corporate philosophy. b. Air Carrier Demographics. (1) Key personnel (names/phone numbers). (2) Organization chart. (3) Major programs. (4) Location of hubs. (5) Location of training bases. (6) Location of maintenance facilities. (7) Personnel strengths. (8) Agent for service. (9) Communications. (10) Special operations. (11) Fleet demographics. (12) Aircraft numbering system. c. Areas of Operations. (1) Type/fleet type of activity. (2) Concentrations of activity. d. Code Sharing/Wet Lease/Interchange. (1) Airline participants. (2) Foreign Flight Attendants (F/A). e. Future Plans of the Air Carrier.	b. Policies and Procedures for Certificate Management Team (CMT) Responsibility for Coverage of Incidents and Occurrences. c. Individual Interests/Specialties Type ratings, areas of interest, background and experience. d. Communications. (1) Types of information to be requested directly from air carrier (points of contact). (2) Information available from the CMT. (3) Points of contact and protocol.
2. CERTIFICATE MANAGEMENT TEAM a. Key Personnel. (1) Listing (name and phone number of all). (2) Principal inspectors (PI) (including regional hazardous materials (hazmat) branch managers).	**3. BACKGROUND OF COMPREHENSIVE ASSESSMENT PLAN (CAP).** a. Special Emphasis Areas. (1) Results of Air Carrier Assessment Tool (ACAT). (2) New and pending issues.
	4. COMPANY MANUALS. a. Overview of Air Carrier Manual System. (1) Manual numbering. (2) Master listing of all parts of the air carrier's manual. (3) Where to find the master listing. (4) Where certain manuals are located. b. Types and Identification of Manuals. (1) Hard copies. (2) Computerized manuals; CD-ROM. c. Location of Manuals. (1) Required on aircraft. (2) Required software, if applicable. (3) Required for crewmembers. (4) Microfiche reader. (5) Required at stations.

Figure 10-46. Air Carrier-Specific Familiarization Briefing Outline of Subjects (Continued)

<table>
<tr><th colspan="2">General Topics—All Specialties (continued)
(Recommended Minimum Hours—8)</th></tr>
<tr><td>d. Distribution and Revision.

(1) Determining current revision status.
(2) Use of computer, if applicable.
(3) What method is used to issue revisions?
(4) Tracking responsibilities.

e. Alerts and Bulletins.

(1) Method to determine current status.
(2) Transmission of bulletins and revisions.</td><td rowspan="3">b. Quick Reference Handbook Location and Use.
c. Safety Briefing.
d. Crew Briefing; Communication.
e. Required Paperwork/Documentation.

(1) Location of logbooks (flight deck/cabin).
(2) Location of minimum equipment list (MEL).
(3) Airworthiness release.
(4) Placards.

f. Unique Fleet/Air Carrier Procedures.
g. Airborne Communications Addressing and Reporting System (ACARS).

(1) Weight and balance.
(2) Release amendments.
(3) Communications.</td></tr>
<tr><td>5. SECURITY AND ACCESS.

a. Access to Ramp and Facilities.

(1) Site-specific requirements.
(2) Air carrier’s security coordinators.

b. ID Badges.
c. Cockpit Keys.
d. Security Alerts for Travel Advisories.</td></tr>
<tr><td>6. HAZARDOUS MATERIALS.

a. Acceptable Shipments.
b. Documentation.
c. Location Verification.
d. Company Material (COMAT).</td></tr>
<tr><td>7. EN ROUTE PROCEDURES.

a. Jumpseat Authorization and Procedures.

(1) Jumpseat operation.
(2) Radio operation; headset location and use.

b. Requirement for International Travel.

(1) Country clearance forms (passport and visa).

8. FLIGHT DECK PROCEDURES.

a. Checklist Location and Use.

(1) Flight Deck flows.</td><td>9. CABIN PROCEDURES.

a. Exit Seating.
b. Emergency Equipment.

(1) Location.
(2) Preflight, if applicable, for F/As.

c. Markings and Placards.
d. Carry-On Baggage.
e. Special Procedures.
f. Medical Emergencies.

(1) Medical oxygen.
(2) Medlink.
(3) AED (defibrillators).

g. Couriers.
h. Cargo/Animal Handlers.
i. Cockpit/Cabin Communications.
j. Carriage of Weapons.

(1) Forms and procedures.</td></tr>
</table>

Figure 10-46. Air Carrier-Specific Familiarization Briefing Outline of Subjects (Continued)

<table>
<tr><th colspan="2">Specific Topics—All Specialties
(Recommended Minimum Hours—8)</th></tr>
<tr><td>1. AIR CARRIER PROGRAMS.

a. Deicing.

(1) General procedures and training.
(2) Paperwork.

b. Fueling.

(1) General procedures and training.
(2) Paperwork.
(3) Passenger handling during fueling.
(4) Bonding and grounding.

c. Pushback/Powerback Procedures.
d. International Procedures.

(1) Crew check-in time.
(2) Crew complement.
(3) Flight/duty and rest computation.
(4) General declaration.
(5) Passport and visa requirements.

e. Special and Ferry Flight Procedures.
f. Cargo Operations.
g. Security.

(1) Hijack procedures.
(2) Interference with crewmembers.</td><td rowspan="2">4. OPERATIONS SPECIFICATIONS.

a. Exemptions and Deviations.
b. Special Areas of Operations.
c. Special Authorizations and Programs.

(1) Powerback procedures.
(2) Single-engine taxi.
(3) Extended Operations (ETOPS).
(4) Areas of magnetic unreliability (AMU).
(5) Lower Landing Minimums.
(6) Minimum Navigation Performance Standards (MNPS).
(7) Flight Operations Quality Assurance (FOQA).
(8) Aviation Safety Action Program (ASAP).
(9) Reduced vertical separation minimums (RVSM).
(10) Category III Approach (CAT III) procedures.</td></tr>
<tr><td>2. RECORDS AND REPORTING.

a. General.

(1) Format: paper, microfiche, electronic.
(2) Electronic signatures.
(3) Security issues.
(4) Custody and retention.</td></tr>
</table>

Figure 10-46. Air Carrier-Specific Familiarization Briefing Outline of Subjects (Continued)

Specific Topics—All Specialties (continued) (Recommended Minimum Hours—8)	
3. STATION FACILITIES. a. Manuals. b. Fueling Equipment and Facilities. c. Maintenance Support. d. Contract Services. e. Passenger and Baggage Screening. f. Cargo. g. Marshalling and Ground Handling.	

Figure 10-46. Air Carrier-Specific Familiarization Briefing Outline of Subjects (Continued)

Operations and Cabin Safety Topics (Recommended Minimum Hours—8 to 16)	
1. FLIGHT OPERATIONS PROGRAMS a. Flight Planning and Documentation. (1) Performance/operating limits. (2) Operational release. (3) Format of the release package. (4) Supplemental operations. (5) Passenger manifest. (6) Weather. (7) Weight and balance. (8) Documentation transmittal. b. Dispatch and Flight Following. (1) Centralized procedures. (2) Shared procedures. c. MEL/Configuration Deviation List (CDL) System/Deferral Process and Nonessential Equipment and Furnishings (NEF).	**4. CABIN SAFETY.** a. F/A Duties/Cabin. (1) Carriage of passengers specified in 14 CFR part 121, § 121.583(a). (2) Wet lease operations. (3) Reporting discrepancies. (4) Seatbelt discipline. (5) Child restraint. (6) Smoking requirements. (7) Number of required F/As. (8) Briefing requirements. (9) Reporting of mechanical discrepancies. (10) Sterile cockpit. b. Passenger Handling. (1) Interference with crewmember programs. (2) Passengers who may appear intoxicated. c. Carry-On Baggage. (1) Screening. (2) Carry-on baggage program. (3) Regional airline differences. d. Exit Seating. (1) Announcements; briefing cards. (2) Interpreters. e. Gate Agent Procedures. (1) Passenger service. (2) Supplemental operations. f. First Aid and Medical. (1) Medlink procedures. (2) CPR training. (3) Equipment required. (4) Other equipment.
2. TRAINING AND QUALIFICATIONS. a. Overview. (1) Operations specifications (OpSpecs)/specific training requirements. (2) Types of training conducted (wet lease, Advanced Qualification Program (AQP)). b. Training Facilities and Equipment. c. Key Fleet Personnel. d. Documentation of Personnel Requirements and Training. e. Outsource Training.	
3. REST AND DUTY TIME. a. Flightcrew. (1) Records and reporting. (2) Scheduling. b. Cabin Crew. (1) Records and reporting. (2) Scheduling. c. Dispatch. (1) Records and reporting. (2) Scheduling.	

Figure 10-46. Air Carrier-Specific Familiarization Briefing Outline of Subjects (Continued)

Maintenance and Avionics Topics (Recommended Minimum Hours—8 to 16)	
1. MAINTENANCE SYSTEMS. a. Air Carrier Procedures. (1) General procedures manual. b. Aircraft Parts/Material Control. (1) Site receiving inspection. (2) Scrap parts procedures. c. Ground Handling/Taxi/Run-Up Procedures. d. Calibrated Tools and Test Requirements. e. Maintenance Assessments. f. Required Equipment. (1) Aircraft. (2) Fly-away kit. (3) Maintenance library.	(3) Types conducted. (4) Training facilities/equipment. (5) Key personnel. g. Airworthiness Release. (1) Format of the release package. (2) Supplemental operations. (3) Maintenance releases. h. Weight and Balance. i. MEL/CDL/NEF. (1) Preamble; general; revision status. (2) Deferral and tracking. (3) Coordination with maintenance control. (4) Action required for inoperative items. (5) Interim actions; DENT program.
2. RECORDS AND REPORTING. a. Maintenance Logbooks/Recording. b. Aircraft Records/Aircraft Listing. c. Mechanical Interruption Summary. d. Service Difficulty Reports.	j. Special Programs. (1) ETOPS. (2) AMU. (3) Lower landing minimums. (4) MNPS. (5) ASAP. (6) FOQA. (7) RVSM. (8) Reliability program. (9) Repeat maintenance items. (10) Required inspection items. (11) Continuous Analysis Surveillance. (12) Coordination Agency for Supplier's Evaluation. (13) Corrosion Prevention Control Program (CPCP). (14) Aging aircraft program. (15) Supplemental Inspection Document/Supplemental Structural Inspection Document.
3. OPERATIONS SPECIFICATIONS.	
4. STATION FACILITIES. a. Parts and Equipment. b. Deicing Procedures.	
5. MAINTENANCE ORGANIZATION. a. Maintenance Control. b. Engineering Systems and Forms. c. Internal Evaluation and Quality Assurance. d. Airworthiness Directive Management. e. Maintenance Providers. f. Training Programs. (1) Overview of qualifications and training. (2) OpSpecs/specific training.	

RESERVED. Paragraphs 10-155 through 10-170.

VOLUME 12 INTERNATIONAL AVIATION

CHAPTER 2 FOREIGN AIR CARRIERS OPERATING TO THE UNITED STATES AND FOREIGN OPERATORS OF U.S.-REGISTERED AIRCRAFT ENGAGED IN COMMON CARRIAGE OUTSIDE THE UNITED STATES

Section 5 Part 129 Part C Operations Specifications—Airplane Terminal Instrument Procedures and Airport Authorizations and Limitations

12-214 PART C OPERATIONS SPECIFICATIONS (OPSPECS). The Federal Aviation Administration (FAA) issues Part C OpSpecs to foreign air carriers who conduct airplane operations under Title 14 of the Code of Federal Regulations (14 CFR) part 129. The FAA does not issue Part C OpSpecs to foreign air carriers who conduct only helicopter operations. Instrument flight rules (IFR) helicopter operators are issued Part H OpSpecs. The FAA does not usually issue Part C OpSpecs to part 129 on-demand operators who are restricted to visual flight rules (VFR)-only operations.

OPSPEC C048, ENHANCED FLIGHT VISION SYSTEM (EFVS) USE ON STRAIGHT-IN INSTRUMENT APPROACH PROCEDURES OTHER THAN CATEGORY II OR CATEGORY III.

A. Authorization. The C048 authorization is issued to foreign air carriers conducting airplane operations under 14 CFR part 129. C048 authorizes a certified enhanced flight vision system (EFVS) to be used to descend below Decision Altitude (DA) or minimum descent altitude (MDA) on straight-in instrument approach procedures (IAP), other than Category (CAT) II or CAT III, in accordance with applicable U.S. regulations.

B. EFVS Use. Title 14 CFR part 91, § 91.175(l) and (m) authorize an EFVS to be used to descend below DA or MDA on straight-in IAP, other than CAT II or CAT III. These regulations require that the EFVS have an FAA type design approval (type certificate (TC) or Supplemental Type Certificate (STC)) or, for foreign-registered aircraft, that the EFVS complies with all of the EFVS requirements of the U.S. regulations. An EFVS uses imaging sensor technologies to provide a real-time enhanced image of the forward external visual scene to the pilot. An EFVS is used by the pilot to determine that the enhanced flight visibility is not less than the visibility prescribed in the IAP to be flown and that the required visual references for descending below DA or MDA down to 100 feet (ft) above the touchdown zone elevation (TDZE) are distinctly visible and identifiable using the sensor image when the runway environment is not visible using the pilot's natural vision. An EFVS also helps to verify proper runway alignment at night and in low visibility conditions.

NOTE: The authorization associated with this OpSpec is in keeping with the intent of § 91.175(l) and (m) and does not authorize an EFVS to be used to satisfy the § 91.175 (e)(2) requirement that an identifiable part of the airport be distinctly visible to the pilot during a circling maneuver at or above MDA or while descending below MDA. An EFVS is permitted to be used to identify the required visual references in order to descend below DA or MDA on straight-in IAP only. An instrument approach with a circle-to-land maneuver is not a straight-in IAP

and does not have straight-in minima. While the regulations do not prohibit EFVS from being used during any phase of flight, they do prohibit it from being used for operational credit on anything but a straight-in IAP. An EFVS may be used during a circle-to-land maneuver provided the visual references required at or above MDA and throughout the circling maneuver are distinctly visible using natural vision. Use of EFVS during a circling maneuver may enable a pilot to see much more of the external scene at night and in low visibility conditions than would be possible using natural vision, thereby enhancing situational awareness (SA).

C. Visual References. In order to descend below DA or MDA, the following visual references for the runway of intended landing must be distinctly visible and identifiable to the pilot using the EFVS:

1) The Approach Light System (ALS) (if installed); or

2) The following visual references in both subparagraphs a) and b) below:

a) The runway threshold, identified by at least one of the following:

1. The beginning of the runway landing surface;

2. The threshold lights; or

3. The runway end identifier lights (REIL).

b) The touchdown zone (TDZ), identified by at least one of the following:

1. The runway TDZ landing surface;

2. The TDZ lights;

3. The TDZ markings; or

4. The runway lights.

D. Natural Vision. To descend below 100 ft above the TDZE of the runway of intended landing, the pilot must be able to see the visual references required by § 91.175(l)(4) using natural vision, without relying on the EFVS. That is, the enhanced flight visibility observed by use of an EFVS is no longer applicable. At this point, the flight visibility only has to be sufficient for the pilot to distinctly see and identify the lights or markings of the threshold or the lights or markings of the TDZ using natural vision before continuing to a landing.

E. Using Natural Vision. The visual references required by § 91.175(l) using EFVS to descend below DA or MDA are different from those required by § 91.175(c) using natural vision. Table 12-4A, Required Visual References, Section 91.175(c) and (l), provides a comparison of visual reference requirements for both natural vision and EFVS. Generally, the visual reference requirements for EFVS are more stringent than those for natural vision. For example, § 91.175(c) allows descent below DA or MDA using natural vision when only one of

the visual references listed can be seen. For EFVS, § 91.175(l) requires that a pilot either see the ALS or at least one visual reference listed for the threshold environment and one visual reference listed for the TDZ environment. When natural vision is used, the Visual Approach Slope Indicator (VASI) is permitted to be used as a required visual reference for descent below DA or MDA. Under § 91.175(l) using EFVS, however, the VASI cannot be used as a visual reference for descent below DA or MDA using EFVS because the EFVS display is monochromatic. For descent below 100 ft above TDZE using natural vision, § 91.175(c)(3) permits the approach lights to be used as a reference only if the red terminating bars or the red side row bars are visible and identifiable. For EFVS operations below 100 ft above TDZE, the approach lights with red side row bars are not permitted to be used as a visual reference, even though the pilot is required to rely only on natural vision to descend below 100 ft above TDZE. The only visual references permitted to be used for EFVS operations below 100 ft above TDZE are the lights or markings of the threshold or the lights or markings of the TDZ.

Table 12-4A. Required Visual References, Section 91.175(c) and (l)

Required Visual References Using *Natural Vision* (14 CFR 91.175(c))	**Required Visual References Using an *Enhanced Flight Vision System (EFVS)* (14 CFR 91.175(l))**
For operation below Decision Altitude (DA) or minimum descent altitude (MDA): At least one of the following visual references: Approach Light System (ALS). Threshold. Threshold markings. Threshold lights. Runway end identifier lights (REIL). Visual Approach Slope Indicator (VASI). Touchdown zone (TDZ). TDZ markings. TDZ lights. Runway. Runway markings. Runway lights.	**For operation below DA or MDA:** The following references, using the EFVS: ALS *OR* BOTH paragraphs A and B: A. The runway threshold, identified by at least one of the following: • Beginning of the runway landing surface, • Threshold lights, or • REIL. AND B. The touchdown zone, identified by at least one of the following: • Runway TDZ landing surface, • TDZ lights, • TDZ markings, or • Runway lights.

Required Visual References Using *Natural Vision* (14 CFR 91.175(c))	**Required Visual References Using an *Enhanced Flight Vision System (EFVS)* (14 CFR 91.175(l))**
Descent below 100 ft height above TDZE: At least one of the following visual references: ALS, as long as the red terminating bars or red side row bars are also distinctly visible and identifiable. Threshold. Threshold markings. Threshold lights. REIL. VASI. TDZ. TDZ markings. TDZ lights. Runway. Runway markings. Runway lights.	**Descent below 100 ft height above TDZE:** The following references, using natural vision: The lights or markings of the threshold, *OR* The lights or markings of the TDZ.

F. Conditions of Approval. Before issuing C048 based on aircraft equipment and operation, inspectors shall ensure that the foreign air carrier meets the following conditions:

1) Aircraft and Associated Aircraft Systems. The authorized aircraft must be equipped with an EFVS certified for conducting operations under § 91.175(l) and (m) and must either have an FAA type design approval (TC or STC) or, for a foreign-registered aircraft, the EFVS must comply with all of the EFVS requirements of the U.S. regulations. Furthermore, the foreign air carrier must be approved by the State of Operator to use an EFVS on straight-in IAPs, other than CAT II or CAT III, and a copy of that approval must be provided to the FAA. Field approvals for EFVS installations are not authorized. An EFVS is an installed airborne system and must include:

a) A head-up display (HUD) or equivalent display.

1. The EFVS sensor imagery and aircraft flight symbology must be presented so that they are clearly visible to the Pilot Flying (PF) in his normal position, line of vision, and looking forward along the flightpath.

2. The EFVS display must be conformal. That is, the sensor imagery, aircraft flight symbology, and other cues that are referenced to the imagery and external scene must be aligned with and scaled to the external view.

b) Sensors that provide a real-time image of the forward external scene topography.

c) Computers and power supplies.

d) Indications and controls.

e) Aircraft flight symbology that includes at least the following:

1. Airspeed,

2. Vertical speed,

3. Aircraft attitude,

4. Heading,

5. Altitude,

6. Command guidance as appropriate for the approach to be flown,

7. Path deviation indications,

8. Flight Path Vector (FPV) cue, and

9. Flight Path Angle (FPA) reference cue. The FPA reference cue must be displayed with the pitch scale and must be selectable by the pilot for the appropriate approach descent angle.

NOTE: An EFVS must not be confused with an Enhanced Vision System (EVS). An EVS is an electronic means to provide the flightcrew with a sensor-derived or enhanced image of the external scene (e.g., millimeter wave radar, Forward Looking Infrared (FLIR)). Unlike an EFVS, an EVS does not necessarily provide the additional flight information/symbology required by § 91.175(m). An EVS might not use a HUD, and might not be able to present the image and flight symbology in the same scale and alignment as the outside view. This system can provide SA to the pilot, but does not meet the regulatory requirements of § 91.175(m). As such, an EVS cannot be used as a means to determine enhanced flight visibility and to descend below the DA or MDA.

2) Flightcrew Procedures. The pilot can continue the approach below DA or MDA to 100 ft above the TDZE if he or she determines that the enhanced flight visibility observed by the use of a certified EFVS is not less than the minimum visibility prescribed in the straight-in IAP being flown, and the pilot acquires the required visual references prescribed in § 91.175(l)(3). The pilot uses the EFVS to visually acquire the runway environment, confirm lateral alignment, maneuver to the extended runway centerline (RCL), and continue a normal descent from the DA or MDA to 100 ft above the TDZ.

a) A pilot may continue the approach below 100 ft above the TDZE as long as the flight visibility, using natural vision, is sufficient for the required visual references to be seen. In addition, the aircraft must be continuously in position from which a descent to landing can be made on the intended runway, at a normal rate of descent using normal maneuvers, and at a descent rate that allows touchdown to occur within the TDZ.

b) It should be noted that the rule does not require the EFVS to be turned off or the sensor image to be removed from the HUD in order to continue to a landing without reliance on the EFVS sensor image. In keeping with the requirements of the regulations, however, the decision to continue descending below 100 ft above the TDZE must be based on seeing the visual references required by the rule through the HUD by means of natural vision. An operator may not continue to descend beyond this point by relying on the sensor image displayed on the HUD.

c) EFVS equipage may vary. Some aircraft may be equipped with a single EFVS display. Others may have an EFVS display and a separate repeater display located in or very near the primary field of view (FOV) of the nonflying pilot. Still others may be equipped with dual EFVS displays. The regulations do not require a repeater display or a separate EFVS for the nonflying pilot, but neither do they preclude it. Procedures for EFVS operations should be developed that are appropriate to the equipment installed and the operation to be conducted. In establishing these procedures, both normal and abnormal or failure modes must be addressed for the various phases of the approach (e.g., prior to final approach fix (FAF), FAF to DA or MDA, and after reaching DA or MDA).

d) Procedures should support appropriate levels of crew coordination with special emphasis on the transition to and reliance on natural vision. Each EFVS has a specified limit to the FOV. An offset final approach or crosswinds may affect use of the EFVS, as well as when the decision is made to rely on natural vision for the primary reference. Also, specific pilot/crew decisionmaking and coordination must be addressed in the segment from FAF to DA or MDA (or point that a decision to rely on natural vision is made) and the EFVS segment (from DA or MDA down to 100 ft height above TDZE). The transition from enhanced vision to natural vision for landing is an especially important segment. Foreign air carriers should describe how common SA will be achieved—either procedurally when a single EFVS is used or through a combination of procedures and equipment when a repeater display or dual EFVSs are used.

3) Flightcrew Qualification and EFVS Training Program. The flightcrew must be trained in the use of EFVS and demonstrate proficiency conducting straight-in IAPs, other than CAT II or CAT III (e.g., CAT I instrument landing system (ILS), nonprecision, approach procedures with vertical guidance (APV), etc.). Part 129 operators must have approved training programs. Part 129 operators must have approved training programs approved by the State of Operator. These programs should include the following items:

a) Pilots should demonstrate knowledge of the regulatory requirements for EFVS operations contained in § 91.175 for approach to straight-in landing operations below DA or MDA.

b) Pilots operating an EFVS should be able to demonstrate knowledge and proficiency in the use of this equipment through training and checking as required by the type of operation. As a minimum, pilots should be knowledgeable and proficient in the following areas:

1. The specific sensor technology to include limitations that impact enhanced vision under various environmental conditions (weather, system resolution, external interference, thermal characteristics, variability, and unpredictability of sensor performance, etc.).

2. EFVS operational considerations:

a. Use of HUD symbology.

b. Preflight and warmup requirements, as applicable.

c. Controls, modes, adjustments, and alignment of the EFVS/HUD.

d. Importance of the Design Eye Position (DEP) in acquiring the proper EFVS image.

e. System limitations, normal, and abnormal procedures, including visual anomalies such as noise, blooming, and thermal crossover.

f. Use of EFVS on precision, non-precision, and APV approaches.

g. Use of caged and uncaged modes of the EFVS, if applicable, in crosswind conditions.

3. Impact of EFVS on other aircraft systems, such as autopilot minimum use height limitations.

4. Runway lighting systems and ALS.

5. Crew briefings, callouts, and crew coordination procedures.

6. Visual references required by § 91.175(l)(3) and (4).

7. Transition from EFVS imagery to natural vision and recognition of the required visual references.

8. Obstacle clearance requirements for approach and missed approach:

a. Flight planning for obstacle clearance on a missed approach (e.g., go-around or balked landing) below DA or MDA.

b. Use and significance of a published vertical descent angle (VDA) on IAPs.

c. Vertical Path (VPATH), Vertical Approach Slope Indicator (VASI), precision approach path indicator (PAPI), published visual descent points (VDP), calculated VDPs, etc.

d. Use of the FPA reference cue and FPV cue.

9. Missed approach requirements—loss of required equipment, enhanced flight visibility, or required visual references for various phases of the approach (e.g., FAF to DA or MDA, and after passing DA or MDA).

c) The flightcrew shall not conduct any operations authorized by this paragraph unless they are trained and qualified in the equipment and special procedures to be used. For foreign air carriers operating under part 129, no pilot in command (PIC) or second in command (SIC) shall conduct EFVS operations in any airplane until that pilot has successfully completed the foreign air carrier's approved EFVS training program and has been certified as being qualified for EFVS operations by one of the foreign air carrier's check airmen properly qualified for EFVS operations or a civil aviation authority (CAA) inspector from the State of Operator. EFVS training is required in accordance with the Standards established in International Civil Aviation Organization (ICAO) Annex 6, Part 1. It should be noted that foreign EFVS regulatory requirements, operational concepts, operational authorizations, airworthiness criteria, and equipment requirements may differ from those specified in § 91.175(l) and (m). Where there are differences, it is important to ensure that the foreign air carrier's approved training program addresses those differences and that operations are not authorized without appropriate training. European Aviation Safety Agency (EASA) regulations for EFVS operations can be found in OPS 1: Commercial air transportation (aeroplanes), Annex III of Council Regulation (EEC) No 3922/91 (EU Ops) Subpart E, appendix 1 to OPS 1.430(h). It should be noted that EASA uses the term EVS to describe a system that has the same elements, features, and characteristics as an EFVS certified by the FAA for use in the United States.

4) Aircraft Flight Manual (AFM) Provisions. Foreign-registered aircraft used by a foreign air carrier for EFVS operations within the United States must have AFM provisions reflecting an appropriate level of EFVS capability that meets the display, features, and characteristics required by § 91.175. The approved AFM for the aircraft must contain EFVS provisions appropriate to the EFVS operation authorized. For foreign persons or foreign air carriers operating U.S.-registered aircraft, the approved AFM must contain EFVS provisions appropriate to the EFVS operation authorized.

5) Minimum Equipment List (MEL). For foreign air carriers operating foreign-registered aircraft within the United States, the MEL for the aircraft, including EFVS provisions, if MEL relief for EFVS is sought, must be approved by the State of Operator CAA. For foreign persons or foreign air carriers operating U. S.-registered aircraft, the MEL for the aircraft, including EFVS provisions, if MEL relief for EFVS is sought, must be approved by the FAA and the State of Operator when operations issues are involved.

Approved Maintenance Program. For foreign air carriers operating foreign-registered aircraft within the United States, the maintenance program must be approved by the State of Operator CAA. Foreign persons or foreign air carriers operating U. S.-registered aircraft, within or outside the United States in common carriage, shall in accordance with part 129, § 129.14, "ensure that each aircraft is maintained in accordance with a program approved by the Administrator." This maintenance program should also address issues unique to the EFVS.

OPSPEC C050—SPECIAL PILOT-IN-COMMAND QUALIFICATION AIRPORTS (required for all foreign air carriers conducting IFR operations into special airports requiring special qualification by the pilot in command, as designated by the FAA).

A. The Intent of OpSpec C050. This OpSpec is issued to authorize the foreign air carrier to operate to U.S. special airports, designated as Special Pilot-In-Command (PIC)

Qualification Airports by the FAA. Additionally, this paragraph imposes the same requirements regarding Special PIC Qualification Airports that would be imposed on a U.S. carrier for operations in accordance with 14 CFR part 121, § 121.445, in an attempt to ensure an equivalent level of safety. This OpSpec applies to:

1) Scheduled operations conducted using turbojet-powered airplanes or airplanes having a passenger-seat configuration of more than nine passenger seats, excluding each crewmember seat.

2) Any operation with large aircraft as defined in OpSpec A002 of the air carrier's OpSpecs.

B. Representing a New Process. This OpSpec and associated guidance also represent part of a new process for updating and maintaining a current Special PIC Qualification Airport List and notification to the foreign air carrier. Advisory circular (AC) 121.445-1D, Pilot-In-Command Qualifications for Special Area/Routes and Airports, dated June 20, 1990, was cancelled and OpSpec C050 was put into place.

C. The Special PIC Qualification Airports List. The current Special PIC Qualification Airports list is maintained on the Flight Standards Information Management System (FSIMS). The list is also maintained in the automated Operations Safety System (OPSS) guidance subsystem in association with OpSpec C050 for those carriers that have access to the OPSS through the Industry Operations Specifications Subsystem (IOPSS).

D. Special PIC Qualifications Airports. The FAA has designated certain airports in the United States as Special PIC Qualification Airports due to items such as surrounding terrain, obstructions, or complex approach or departure procedures (DPs). The foreign air carrier is only authorized to conduct instrument flight rules (IFR) operations into U.S. airports listed as Special PIC Qualification Airports with large aircraft as defined in OpSpec A002, turbojet-powered airplanes, or airplanes having a passenger seat configuration of more than nine passenger seats, excluding each crewmember seat, in accordance with the following provisions:

1) The foreign air carrier may not use any person, nor may any person serve, as PIC to or from a U.S. airport determined to require special airport qualifications, as indicated in the FAA's list of Special PIC Qualification Airports, unless:

a) The PIC or second in command (SIC) has made an entry to that airport using an aircraft or the entry is simulated using a level D simulator or better in accordance with a qualification program approved/accepted by their Civil Aviation Authority (CAA), including takeoff and landing, while serving as a pilot flightcrew member within the preceding 12 calendar-months, or

b) The PIC has qualified by using a pictorial means approved/accepted by the foreign air carrier's CAA for that airport.

c) The PIC or SIC has made an entry to that airport while occupying the flight deck observer's seat, they are qualified on the aircraft type and monitor radio communications

during the entry, and the procedure is included in the carrier's manual, which has been approved/accepted by the State of Operator CAA.

d) The restrictions of subparagraph D1) do not apply when an entry (including a takeoff or a landing) to that airport is being made if the ceiling at that airport is at least 1,000 feet (ft) above the lowest minimum en route altitude (MEA) or minimum obstruction clearance altitude (MOCA), or the initial approach altitude prescribed for the instrument approach procedure (IAP) for that airport, and the visibility at that airport is at least 3 miles.

2) In reference to subparagraph D1)a), the PIC or SIC would receive equally valuable familiarization with the Special PIC Qualification Airports whether they are the Pilot Flying (PF) or the pilot-not-flying (PNF) during the entry. There is no requirement for a pilot to act as PF during takeoff or landing in order for the entry to count towards the requirements of OpSpec C050.

3) In reference to subparagraph D1)c), in order for the pilot to receive a familiarization benefit equal to a pilot who qualifies in a simulator or using pictorial means, in order for the foreign air carrier to use the provision of subparagraph D1)c), the foreign air carrier's manual needs to clearly spell out the procedures used by a pilot occupying the flight deck for the purposes of qualification at U.S. Special PIC Qualification Airports. The foreign air carrier shall provide their responsible Flight Standards District Office (FSDO)/International Field Office (IFO)/International Field Unit (IFU) with a copy of this procedure and evidence of approval/acceptance by the State of Operator CAA, subparagraph c3) in OpSpec C050, which specifies this provision, is a selectable subparagraph that must be selected if applicable from the dropdown in subparagraph c during paragraph preparation.

E. Applicability. This OpSpec is issued to all foreign air carriers conducting IFR operations into the United States and establishes provisions the foreign air carrier must comply with to operate to Special PIC Qualification Airports.

OPSPEC C051—TERMINAL INSTRUMENT PROCEDURES (required for all air carriers conducting IFR operations).

A. Purpose. The FAA issues OpSpec C051 to all foreign air carriers who operate airplanes and conduct any flight operations under instrument flight rules (IFR). This paragraph provides direction and guidance on acceptance of U.S. Terminal Instrument Procedures (TERPS). This OpSpec also provides additional guidance to the foreign air carrier for converting any takeoff and landing minimum expressed in the metric linear measurement system to the U.S. standard linear measurement system

B. No Inspector Input Required. This paragraph requires no inspector input. Additional information concerning TERPS is contained in Volume 4, Chapter 2, Section 1.

OPSPEC C052—STRAIGHT-IN NON-PRECISION, APV, AND CATEGORY I PRECISION APPROACH AND LANDING MINIMA—ALL AIRPORTS (required for all carriers conducting IFR operations).

A. Applicability. OpSpec C052 specifies the types of instrument approaches the foreign air carrier is authorized to conduct, prohibits the use of other types of instrument approaches, and authorizes the lowest straight-in non-precision, approach procedures with vertical guidance (APV), and Category (CAT) I precision approach and landing minima. Before authorizing a type of instrument approach procedure (IAP), the principal operations inspector (POI) must ensure the foreign air carrier has established the aircraft system eligibility and that its manual, which the State of Operator must have approved/accepted, includes both flightcrew training and procedures, as applicable, for the types of approaches authorized. All of the approaches authorized by OpSpec C052 must be published in accordance with 14 CFR part 97.

NOTE: Questions regarding the issuance of OpSpec/management specification (MSpec)/letter of authorization (LOA) C052 should be directed to the Flight Technologies and Procedures Division (AFS-400) at 202-385-4623 or the International Programs and Policy Division (AFS-50) at 202-385-8070.

B. Types of Instrument Approaches Authorized. In paragraph C052, Table 1 specifies the types of instrument approaches the operator is authorized to conduct under instrument flight rules (IFR) and prohibits the use of other types of instrument approaches. In the Web-based Operations Safety System (WebOPSS), the POI will select the approaches that apply to the operator. Refer to the Aeronautical Information Manual (AIM) for a detailed description of each approach.

1) See Volume 4, Chapter 2, Section 1 for information on required training for various types of approaches.

2) All the approaches approved by OpSpec/MSpec/LOA C052 must be published in accordance with part 97.

3) If the foreign air carrier is authorized to conduct Global Positioning System (GPS) procedures as listed in Table 1 of OpSpec/MSpec/LOA C052, the aircraft and equipment must be listed in Table 1 of OpSpec/MSpec/LOA B034.

4) Required Navigation Performance Approaches (RNP APCH)—Area Navigation (RNAV) (RNP) approaches are different from RNAV (GPS) approaches in that a specific performance requirement is defined for the navigation system, and onboard performance monitoring and alerting is required. An RNP APCH typically addresses only the requirement for the lateral navigation aspect (2D navigation) along straight segments. RNP approaches that contain a curved segment (RF leg), Final Approach Segments (FAS) specifying less that 0.3 nm accuracy, or a Missed Approach Segment (MAS) that specifies less than 1.0 nm accuracy, require more rigorous equipment qualification and training so special authorization is required. These are referred to as RNAV RNP IAP with Authorization Required (AR) or RNP AR approaches. C052 does not authorize RNP AR operations. Authorization for RNAV RNP AR approaches is through nonstandard OpSpec C384. (Refer to the current edition of Advisory Circular (AC) 90-101, Approval Guidance for RNP Procedures with AR.)

5) Three groups of IAPs may be authorized in OpSpec/MSpec/LOA C052:

a) Column one specifies the Nonprecision Approaches (NPA) without vertical guidance that are authorized by OpSpec/MSpec/LOA C052. Operators must ensure the aircraft will not go below the minimum descent altitude (MDA) without the required visual references specified in 14 CFR part 91, § 91.175.

1. The International Civil Aviation Organization (ICAO) term for an airport surveillance radar (ASR) approach is surveillance radar approach (SRA).

2. Belgium labels these approaches as "SRE." Select "ASR/SRA/SRE" in column one to authorize these approaches.

b) Column two of OpSpec/MSpec/LOA C052 provides for the authorization of APV. These approaches provide vertical guidance, but do not meet the same standards as precision approach systems (e.g., instrument landing systems (ILS), microwave landing systems (MLS), and Ground Based Augmentation System (GBAS)). These APVs are trained using an approved method that allows descent to a published decision altitude (DA).

1. APV approaches may contain Localizer Performance with Vertical Guidance (LPV) minima requiring wide area augmentation system (WAAS) and lateral navigation (LNAV)/vertical navigation (VNAV) minima which may be flown with either barometric vertical navigation (baro-VNAV) or WAAS-based VNAV and are authorized in column two of Table 1 of OpSpec/MSpec/LOA C052. (See subparagraph C to determine applicable lines of minima.) The AIM and the approach chart legend also have this information.

2. Aircraft accomplishing RNP approaches (RNAV (GPS) or RNAV Global Navigation Satellite Systems (GNSS)) are required to monitor lateral and, if approved for operational credit, vertical guidance deviations. For baro-VNAV approach operations on an RNP approach using the LNAV/VNAV minimums, the current vertical deviation limits are +100/-50 feet. Aircraft qualified using the current edition of AC 20-138, Airworthiness Approval of Positioning and Navigation Systems, deviation display requirements for navigation, may use a vertical deviation limit of ±75 feet (or a smaller value). This information must be published in the Airplane Flight Manual (AFM), a Supplemental Type Certificate (STC) or verified by the Aircraft Evaluation Group (AEG).

3. To authorize RNAV APVs, select "RNAV (GPS)" (for part 97 approaches) or "RNAV Global Navigation Satellite System (GNSS)" (for foreign approaches) from the selectable menu for column two of the OpSpec/MSpec/LOA C052 template Table 1.

c) Column three of OpSpec/MSpec/LOA C052 provides for the authorization of CAT I precision IAPs from an electronic glideslope (ILS, MLS, or GPS Landing System (GLS)).

1. "*RNAV/ILS" in column three may only be selected in C052 if the operator meets the requirements in OpSpec/MSpec/LOA C063.

2. For pilot qualifications, the initial qualification segment of the certificate holder's approved ILS precision runway monitor (PRM) training program must be successfully completed prior to conducting ILS PRM approach and landing operations. Initial training materials must include published ILS PRM approach chart materials, the AIM, related

Notices to Airmen (NOTAM), and the latest available FAA-produced and -approved ILS PRM video entitled “ILS PRM & SOIA Approaches Information for Air Carrier Pilots” that each pilot must view, and which appears on the FAA Web site at http://www.faa.gov/training_testing/training/prm/.

3. Pilots trained in PRM operations under previous guidance are not required to retrain using the new version of the video. However, pilots are required to know the change in operations of Traffic Alert and Collision Avoidance System (TCAS) during PRM operations, as well as the required actions in response to a controller instruction. Testing of knowledge objectives is required as part of initial and recurrent qualification training. See subparagraph K.

Figure 12-3A. Sample OpSpec/MSpec/LOA C052 Table 1

Table 1—Authorized Instrument Approach Procedures

Nonprecision Approaches (NPA) Without Vertical Guidance	Approaches With Vertical Guidance (APV)	Precision Approach Procedures (ILS, MLS, & GLS)
ASR/SRA/SRE	LDA w/ glideslope	ILS
AZI	RNAV (GPS)	ILS/PRM
AZI/DME	RNAV (GNSS)	MLS
AZI/DME Back Course	LDA PRM	PAR
GPS	LDA PRM DME	ILS/DME
LDA	SDF w/ glideslope	*RNAV/ILS
LDA/DME	LOC BC w/ glideslope	GLS
LOC	RNAV (GPS) PRM	
LOC BC		
LOC/DME		
NDB		
NDB/DME		
RNAV (GPS)		
VOR/DME RNAV		
SDF		
TACAN		
VOR		
VOR/DME		
LOC/BC/DME		

C. GPS Authorization. Volume 4, Chapter 1, Section 2 provides more extensive guidance on GPS and GPS WAAS equipment. The applicant must show that it has the ability to safely conduct GPS operations.

1) Background. GPS approach procedures have evolved from overlays of existing conventional approaches to standalone GPS approaches. (Overlay approaches are predicated upon the design criteria of the ground-based Navigational Aid (NAVAID) used as the basis of the approach and do not adhere to the design criteria for standalone GPS approaches.) Due to this transition, the FAA has revised the titles of the approach procedures to reflect these upgrades. The titles of all remaining GPS overlay procedures have been revised on the approach charts to read "…or GPS" (e.g., "VOR or GPS RWY 24"). Therefore, all the approaches that can be used by GPS now contain "GPS" in the title (e.g., "VOR or GPS RWY 24," "GPS RWY 24," or "RNAV (GPS) RWY 24"). During these GPS approaches, underlying ground-based NAVAIDs are not required to be operational and associated aircraft avionics need not be installed, operational, turned on, or monitored (although monitoring of the underlying approach is suggested when equipment is available and operational). Existing overlay approaches may be requested using the GPS title. For example, request "GPS RWY 24" to fly the VOR or GPS RWY 24 approach.

NOTE: VOR/DME RNAV approaches will continue to be identified as VOR/DME RNAV RWY (Number) (e.g., VOR/DME RNAV RWY 24). VOR/DME RNAV procedures which can be flown by GPS will be annotated with "or GPS" (e.g., VOR/DME RNAV or GPS RWY 24).

2) WAAS. As the satellite navigation evolution continues, the WAAS has been developed to improve the accuracy, integrity, and availability of GPS signals. WAAS receivers support all basic GPS approach functions and will provide additional capabilities. One of the major improvements provided by the WAAS is the ability to generate an electronic glidepath, independent of ground equipment or barometric aiding. There are differences in the capabilities of the WAAS receivers. Some approach-certified receivers will only support a glidepath with performance similar to Baro-VNAV, and are authorized to fly the LNAV/VNAV line of minima on the RNAV (GPS) approach charts. Receivers with additional capability such as update rate and integrity limits are authorized to fly the LPV or Localizer Performance (LP) line of minima. WAAS approach procedures may provide LPV, LNAV/VNAV, LP, and LNAV minimums and are charted as RNAV (GPS) RWY (Number) (e.g., RNAV (GPS) RWY 24). For further guidance, please see the AIM or contact AFS-400 at FAA HQ.

NOTE: Some WAAS installations do not support approaches at all, while some do not support LPV or LP lines of minima.

3) Local Area Augmentation System (LAAS). An additional augmentation system, the LAAS has been developed to provide precision approaches similar to ILS at airfields. These precise approaches are based on GPS signals augmented by ground equipment. The international term for LAAS is GBAS and the approaches which use the equipment are referred to as GBAS Landing System (GLS) or Global Navigation Satellite System (GNSS) Landing System (GLS) approaches. LAAS equipment consists of a GBAS Ground Facility (GFF) supported by a minimum of four accurately surveyed reference stations and an uplink antenna called the very

high frequency (VHF) Data Broadcast (VDB) antenna, as well as an aircraft LAAS receiver. The GGF can support multiple runway ends or landing areas served by procedures that are within the service coverage.

a) Similar to LPV and ILS approaches, GLS provides lateral and vertical guidance. By design, LAAS was developed as an "ILS look-alike" system from the pilot perspective. Unlike WAAS, LAAS may support approaches to CAT III minimums in the future due to its nearly identical performance standards to ILS in terms of accuracy, integrity, availability and continuity. Portions of the GLS approach prior to and after the FAS may be based on RNAV or RNP segments. Therefore, a switch transition between RNAV or RNP and GLS modes may be required. In the future, the GGF may be able to support portions of the procedure outside the FAS.

b) There are also a few differences from LPV, GLS, and ILS approaches in terms of charting, procedure selection, and identification. The LAAS procedure is titled "GLS RWY XX" on the approach chart. In the aircraft, pilots will select a five-digit GBAS channel number or associated approach within the flight management system (FMS) menu. Selection of the GBAS channel number by pilot or FMS also tunes the VDB. The VDB provides information to the airborne receiver where the guidance is synthesized. The LAAS procedure is identified by a four alpha-numeric character field referred to as the Reference Path Indicator (RPI) or approach ID. This identifier is analogous with the IDENT feature of the ILS. The RPI is charted. Following procedure selection, confirmation that the correct LAAS procedure is loaded can be accomplished by cross-checking the charted RPI with the cockpit-displayed RPI or audio identification of the RPI with Morse code (for some systems). Once selected and identified, the pilot will fly the GLS approach using the same techniques as an ILS.

D. Authorized Criteria for Approved IAPs. For operations to all U.S. airports, operators are authorized to execute instrument approach operations on IAPs that have been published:

1) Under part 97.

2) Under the criteria in the current edition of Order 8260.3, United Standard for Terminal Instrument Procedures (TERPS).

3) Under any other criteria authorized by AFS-400.

4) By the U.S. military agency operating the U.S. military airport.

5) All published Standard Instrument Approach Procedures (SIAP) in the United States meet this requirement.

E. Runway Visual Range (RVR). Touchdown zone (TDZ) RVR is controlling for all operations authorized in paragraph C052. All other RVR reports are advisory. A mid-field RVR report may substitute for an inoperative TDZ RVR report, except for Special Authorization (SA) CAT I operations as described in subparagraph I below.

F. Continuous Descent Final Approach (CDFA) Technique. A CDFA is a specific technique for flying the FAS of an IAP as a continuous descent, without level-off, from an altitude at or above the final approach fix (FAF) altitude, typically to a point approximately 50 feet (ft) above the runway threshold or the point where the flare will begin. For approaches that do not use LNAV/VNAV, LPV, or an ILS/MLS/GLS glidepath, a CDFA technique is recommended. When electronic or a pre-stored computed vertical guidance is not used, Vertical Speed (VS) or FPA may be used to achieve a CDFA profile. Compared to the "step down" descent approach technique, where the aircraft descends step-by-step prior to the next minimum altitude, a CDFA technique has safety and operational advantages, such as standardization of procedures, simplification of the decision process (one technique and one decision at one point), and use of a stable flightpath. However, precision approach (ILS, MLS, GLS) obstacle penetration is not provided. The continuous descent approach technique can be flown on almost any published approach when VNAV or ILS/MLS/GLS is not available.

1) When using a CDFA technique, the decision point to determine if the flightcrew has the required visual references in sight to continue below the MDA may only be treated like a DA in reference to approach profiles and procedures. The operator must add an altitude increment to the MDA (e.g., 50 ft) to determine the altitude at which the missed approach must be initiated in order to prevent descent below the MDA or flight beyond the MAP.

2) The operator should ensure that, prior to conducting a CDFA, each flightcrew member intending to fly CDFA profiles undertakes training appropriate to the aircraft, equipment, and IAPs to be flown.

G. Reduced Precision CAT I Landing Minima. Paragraph C052 specifies the equipment usage requirements and part 97 SIAP depiction required for reduced CAT I landing minima. Credit is given for flight director (FD), autopilot , and head-up display (HUD) usage. The POI should allow the use of 1800 RVR minima to runways without centerline (CL) lighting or TDZ lighting, provided the SIAP contains a straight-in ILS minimum with the chart note, "RVR 1800 Authorized with use of FD or autopilot or HUD to DA." Additionally, the foreign air carrier issued C052 is allowed to continue to use 1800 RVR line of minima on SIAPs without the above procedural note when the TDZ and/or CL lights are inoperative, if the approach is conducted in accordance with the equipment requirements outlined in paragraph C052. This is also reflected in the published inoperative components table for IAPs.

1) FAA Approval. Operators may continue to use the standard CAT I minima based solely on ground lighting systems without alteration of current authorizations or procedures. Operators can utilize reduced CAT I landing minima, provided the SIAP contains a straight-in ILS minimum with the chart note, "RVR 1800 Authorized with use of FD or autopilot or HUD to DA."

2) Conditions of Approval. Before issuing the C052 authorization to use CAT I minima based on aircraft equipment and operation, inspectors shall ensure that each operator meets the following conditions:

a) Aircraft and Associated Aircraft Systems. The authorized aircraft must be equipped with an FD, or autopilot, or HUD that provides guidance to DA. The FD, autopilot, or HUD must be used in approach mode (e.g., tracking the localizer and the glideslope). Inspectors must establish that the FD, autopilot, or HUD are certified for use down to an altitude of 200 ft above ground level (AGL) or lower.

b) Flightcrew Procedures. The flightcrew must use the FD, or autopilot, or HUD to DA or to the initiation of a missed approach, unless visual references with the runway environment are established, thus allowing safe continuation to a landing.

1. If the FD, autopilot, or HUD malfunctions or becomes disconnected, the flightcrew must execute a missed approach unless the runway environment is in sight.

2. Single pilot operators are prohibited from using the FD to reduced landing minima without accompanying use of an autopilot or HUD.

c) Flightcrew Qualification. Each member of the flightcrew must have demonstrated proficiency using the FD, autopilot, or HUD, (as appropriate) in the foreign air carrier's training program approved by their Civil Aviation Authority (CAA).

H. SA CAT I. OpSpec C052 contains selectable text which authorizes SA CAT I ILS approaches to runways without TDZ or RCL lights with a radio altimeter (RA) DH as low as 150 ft and a visibility minimum as low as RVR 1400 when using a HUD to DH. The operator must meet *all* of the following requirements:

1) Eligibility Requirements. Before authorizing SA CAT I, the POI must ensure that the foreign air carrier has established the aircraft system eligibility and that its manual, which the State of Operator must have approved/accepted, includes both flightcrew training and procedures, as applicable.

2) Aircraft Requirements. To be approved for SA CAT I, each airplane must be authorized and maintained for CAT II operations. Those airplanes and equipment must be listed in Table 2 of OpSpec C059. The authorized airplane(s) must be equipped with a HUD which is approved for CAT II or CAT III operations.

3) Training Requirements. The flightcrew must be current and qualified for CAT II operations. Each member of the flightcrew must have demonstrated proficiency using the HUD in the foreign air carrier's training program approved by their CAA. This requirement applies both to initial eligibility for SA CAT I as well as recurrent training.

4) Operational Requirements:

a) The flightcrew must use the HUD to DH in a mode used for CAT II or CAT III operations. This mode provides greater lateral and vertical flightpath accuracy and more sensitive alarm limits.

b) The flightcrew must use the HUD to DH, or to the initiation of missed approach, unless adequate visual references with the runway environment are established that allow safe continuation to a landing. Should the HUD malfunction during the approach, the flightcrew must execute a missed approach unless visual reference to the runway environment has been established.

c) The crosswind component on the landing runway must be 15 knots or less, unless the AFM's crosswind limitations are more restrictive.

d) The part 97 SIAP must have a published SA CAT I minimum. The first procedures with these minimums will be published in 2010.

e) Unlike the other approaches authorized in C052, the mid-RVR report may *not* be substituted for the TDZ RVR report when using SA CAT I minima.

I. PRM. The FAA began the Multiple Parallel Approach Program (MPAP) to research whether simultaneous ILS approaches to parallel runways would improve capacity. The objective was to achieve improvements in airport arrival rates through the conduct of simultaneous closely-spaced parallel approaches. That objective is being met using PRM.

1) ILS PRM, LDA PRM and RNAV (GPS) PRM Approaches with Vertical Guidance. Where parallel RCLs are less than 4,300 feet apart, but not less than 3,000 feet apart, simultaneous ILS PRM approaches may be conducted. Similarly, where parallel RCLs are less than 3,000 feet apart, but no less than 750 feet, simultaneous offset instrument approaches (SOIA) may be conducted using an ILS and an LDA approach with glideslope. Those approaches are labeled "ILS PRM" and "LDA PRM," respectively, on instrument approach charts. Air traffic control (ATC) provides one PRM monitor controller for each runway to provide intrusion protection for the No Transgression Zone (NTZ), located between the two final approach courses. Whenever the runway spacing (or in the case of SOIA the approach course spacing) is less than 3,600 feet and at least 3,000 feet, NTZ monitoring is accomplished using a special PRM radar. Utilization of vertical guidance is required for all PRM approaches. RNAV (GPS) PRM approaches may be substituted for the ILS PRM and/or the LDA PRM approach. Pilots must have completed PRM training prior to conducting any PRM approach. An ILS PRM and its overlayed RNAV (GPS) PRM approach are procedurally equivalent. LDA PRM and its overlayed RNAV (GPS) PRM approach are procedurally equivalent. Pilots may request the RNAV (GPS) PRM approach in lieu of the ILS PRM or LDA PRM approach; however, they may only conduct the approach when specifically cleared to do so by ATC.

2) The Breakout Maneuver. Working with industry, the FAA conducted extensive analysis of simulation data and determined that the implementation of PRM and SOIA approach operations to closely-spaced parallel runways requires additional crew training. The primary focus of this training is to raise each pilot's situational awareness in ILS PRM, LDA PRM and RNAV (GPS) PRM operations. The breakout maneuver must be flown manually.

a) Traffic Alert. One important element of the additional training is the pilot understands the difference between a normal missed approach initiated by a pilot and a breakout initiated by a PRM final monitor controller. It must be clear to flightcrews that when the final

monitor controller uses the words “Traffic Alert,” the controller will then give critical instructions that the pilot must act on promptly to preserve adequate separation from an airplane straying into the adjoining approach path.

b) ATC Breakout Maneuver Command to Turn and/or Descend, Climb, or Maintain Altitude. The flightcrew must immediately follow the final monitor controller’s vertical (climb/descend/maintain altitude) and horizontal (turn) commands. If the flightcrew is operating the TCAS in the traffic advisory (TA)/Resolution Advisory (RA) mode and receives a TCAS RA at any time while following the final monitor controller’s command, the flightcrew will simultaneously continue to turn to the controller’s assigned heading and follow the vertical guidance provided by the TCAS RA.

c) Time-to-Turn Standard. Regardless of airplane type, tests and data analysis revealed that pilots normally passed through an angle of bank of at least 3 degrees while rolling into a breakout turn within 10 seconds of receiving a breakout command. (Bank angles of between 20 and 30 degrees were normally achieved during the breakout.) The operator must show that its CAA has determined that pilots can readily meet this time-to-initiate-turn standard prior to the POI authorizing ILS/PRM, LDA/PRM or RNAV (GPS) PRM approaches in OpSpec/MSpec/LOA C052. Flightcrews are required to manually fly the breakout maneuver unless otherwise approved. The air carrier should demonstrate its ability to meet this standard by having representative pilots perform the breakout maneuver while the POI or the POI’s designated representative observes. The demonstration should conform to procedures contained in the air carrier’s approved operating manual for its flightcrews. The commercial operator should submit procedures to its POI for this authorization.

NOTE: In a breakout, ATC will never command a descent below the applicable minimum vector altitude (MVA), thus assuring that no flight will be commanded to descend below 1,000 ft above the highest obstacle during a breakout.

3) ILS/PRM, LDA/PRM, RNAV (GPS) PRM and the Use of TCAS. TCAS may be operated in TA/RA mode while executing ILS PRM, LDA PRM or RNAV (GPS) PRM approaches. However, when conducting these operations, pilots must understand that the final monitor controller’s instruction to turn is the primary means for ensuring safe separation from another airplane. Pilots must bear in mind that the TCAS does not provide separation in the horizontal plane; the TCAS accomplishes separation by commands solely in the vertical plane. Therefore, during final approach, only the final monitor controller has the capability to command a turn for lateral separation. Flightcrews are expected to follow any ATC instruction to turn.

a) ATC Command to Turn with TCAS RA. In the unlikely event that a flightcrew should simultaneously receive a final monitor controller’s command to turn and a TCAS RA, the flightcrew must follow both the final monitor controller’s turn command and the TCAS RA’s climb or descent command.

b) TCAS RA Alone. In the extremely unlikely event that an RA occurs without a concurrent breakout instruction from the final monitor controller, the pilot should follow the RA and advise the controller of the action taken as soon as possible. In this instance, it is likely that a breakout command would follow.

c) TCAS Not Required. An operator does not need an operative TCAS to conduct ILS/PRM or LDA/PRM or RNAV (GPS) PRM approaches.

4) Required and Recommended Training for ILS/PRM, LDA/PRM, and RNAV (GPS) PRM Approaches. A foreign air carrier must include required training in its training program and the State of Operator must approve that training before the FAA may authorize either or both PRM approaches in OpSpec C052. Flightcrews must accomplish required ground training before conducting ILS/PRM or LDA/PRM or RNAV (GPS) PRM approaches.

a) Initial ground training—required.

1. This training must include all elements of the "Attention All Users Page" of an ILS/PRM or an LDA/PRM or an RNAV (GPS) PRM as authorized, along with viewing the latest version of the PRM video. (Contact FAA Flight Standards at 202-267-8166 for the most current version.)

NOTE: The FAA does not require flightcrews trained previously in PRM operations under earlier guidance to requalify with each new version of the PRM video.

2. The ground portion of the training program must support the following knowledge objectives. Each flightcrew member must:

a. Describe the PRM system to include the meaning of "no transgression zones."

b. Know that an airplane on an adjacent approach path may be less than 4,300 ft away and may be flying at a different speed.

c. Know that the automated terminal information service (ATIS) broadcasts a pilot advisory when ILS/PRM, LDA/PRM or RNAV (GPS) PRM approaches are in progress.

d. Identify the differences between PRM approach charts and normal approach charts, including the special instruction pages for PRM.

e. Explain the unique communication requirements (equipment and procedures) for ILS/PRM, LDA/PRM, and RNAV (GPS) PRM approaches.

f. Know that an unpublished missed approach instruction that ATC may issue prior to published MAPs is called a "breakout."

g. Know that a breakout may include instructions to descend and that the descent will be to no lower than the MVA for the sector. The MVA guarantees 1,000 ft above the highest obstruction in that sector. The rate of descent that controllers expect is not more than 1,000 ft per minute.

h. Know that a pilot must initiate a breakout maneuver manually and immediately upon hearing the "Traffic Alert" command from ATC, and that adequate separation requires that the pilot establish a 3-degree-per-second rate of turn within 8 seconds.

i. Know that the three areas (ATIS, Dual VHF Comm. Required, and All "Breakouts") in the "Attention All Users Page" must be briefed (in flight) prior to conducting an ILS/PRM or an LDA/PRM or an RNAV (GPS) PRM approach.

j. Know that flightcrews may operate the TCAS in the TA/RA mode when conducting PRM approaches, including the following points:

- When an RA occurs with a concurrent ATC breakout command—follow the turn required in the ATC instructions; follow the climb or descent in the RA command (split commands);
- When an RA occurs without a concurrent ATC breakout command—follow the RA and contact ATC as soon as practical;
- TCAS provides only vertical resolution to aircraft conflicts; and
- An operative TCAS is not required for PRM operations.

k. Know procedures for SOIAs, including the following points:

- A visual segment of the LDA/PRM or the offset RNAV (GPS) PRM approach is established prior to the MAP to permit;
- Visual acquisition of the traffic to the parallel runway and advising ATC;
- Visual acquisition of the runway environment;
- LDA PRM or the offset RNAV (GPS) PRM course is maintained until the MAP. At the MAP, the pilot must have the parallel traffic in sight and the runway environment in sight, or fly the missed approach;
- At the MAP with the parallel traffic and the runway in sight, the pilot may continue to a landing;
- Maneuver to align with the RCL;
- Stabilize on glidepath no lower than 500 ft above TDZ; and
- Avoid wake turbulence from the parallel runway traffic.

3. Testing of these knowledge objectives is recommended.

b) Initial flight training—required.

c) Breakout maneuver—required.

NOTE: Initial breakout flight training must focus on the descending breakout.

NOTE: Air carriers who currently hold OpSpec approval to conduct PRM approaches have 12 months from the effective date of HBAT 03-03 (05/29/03) to

initiate breakout flight training, and must complete training by the end of the next full training cycle.

NOTE: Air carriers applying for initial approval to conduct PRM approaches must complete breakout flight training by the end of the next full training cycle after receiving OpSpec approval.

NOTE: The FAA may authorize air carriers to conduct ILS/PRM, LDA/PRM or RNAV (GPS) PRM approaches. The FAA does not require duplicative flight training in the breakout maneuver (i.e., a breakout covered in flight training for ILS/PRM or LDA/PRM or RNAV (GPS) PRM satisfies the requirement).

NOTE: All air carriers who provide breakout training to flightcrews prior to the effective date of HBAT 03-03 (5/29/03) are not required to requalify.

NOTE: LDA/PRM approach. Recommended: ILS/PRM approach (if authorized on OpSpecs).

d) Recurrent ground training—required: Review of the ground training elements and the video in subparagraph E4)a) above and testing in those elements.

e) Recurrent flight training.

1. Required: None.

2. Recommended:

- ILS/PRM approach,
- LDA/PRM approach, and
- Breakout.

5) Authorizing ILS/PRM Approaches, LDA/PRM Approaches, and RNAV (GPS) PRM Approaches for 14 CFR Part 129 Foreign Air Carriers. A part 129 foreign air carrier operating in the United States may be authorized in OpSpec C052 to conduct ILS/PRM approaches, LDA/PRM approaches, and/or RNAV (GPS) PRM approaches if:

a) That foreign air carrier meets the ground and flight training requirements contained in subparagraphs J4)a) through c) above;

b) The CAA for the foreign air carrier authorizes these type approaches; and

c) The air carrier's POI determines that a point of contact (POC) for the foreign air carrier's CAA has been established in the foreign air carrier's OpSpec A006(c).

NOTE: A definition of RNAV (GPS) PRM has been added to the A002 template.

OPSPEC C053 and C054. RESERVED.

OPSPEC C055—ALTERNATE AIRPORT IFR WEATHER MINIMUMS (required for all carriers conducting IFR operations).

A. Applicability. Paragraph C055 is an optional authorization available to all operators conducting airplane operations under 14 CFR part 129. The FAA shall issue OpSpec C055 to all foreign air carriers who conduct instrument flight rules (IFR) operations with airplanes. Paragraph C055 provides a two-part table from which the operator, during the initial dispatch or flight release planning segment of a flight, derives alternate airport IFR weather minimums in those cases where it has been determined that an alternate airport is required.

NOTE: Questions regarding the issuance of OpSpec/MSpec/LOA C055 should be directed to the Flight Technologies and Procedures Division (AFS-400) at 202-385-4625 or the International Operations and Standardization Branch (AFS-50) at 202-385-4510.

B. Airports With At Least One Operational Navigation Facility. The first part of the table is for airports with at least 1 operational navigational facility providing a straight-in Nonprecision Approach (NPA) procedure, or a straight-in precision approach procedure, or, when applicable, a circling maneuver from an instrument approach procedure (IAP). The required ceiling and visibility is obtained by adding 400 feet (ft) to the minimum descent altitude/height (MDA/H) or, when applicable, the authorized Decision Altitude/height (DA/H) and by adding 1 statute mile (mi) or 1,600 meters (m) to the authorized landing minimum.

C. Airports With At Least Two Operational Navigation Facilities. The second part of the table is for airports with at least 2 operational navigational facilities, each providing a straight-in NPA procedure or a straight-in precision approach procedure to different suitable runways. The required ceiling and visibility is obtained by adding 200 ft to the higher MDA/H or DA/H of the 2 approaches used and by adding 1/2 mi or 800 m visibility to the higher authorized landing minimum of the 2 approaches used.

D. Higher Alternate Minimums When Using Two Operational Navigation Facilities. In some cases, it is possible to have higher alternate minimums when using two operational navigational facilities than when using one. For example, an airport with one straight-in NPA procedure with a MDA/H of 400 ft and 1 mi visibility would have alternate minimums of 800 ft and 2 mi visibility (400 ft + 400 ft and 1 mi + 1 mi). On the other hand, an airport with two straight-in approaches, one which is a straight-in precision approach with a DA/H of 200 ft and 1/2 mi visibility and the other a straight-in NPA with a MDA/H of 700 ft and 1 mi visibility, would have alternate minimums of 900 ft and 1 1/2 mi visibility (200 ft + 700 ft and 1/2 mi + 1 mi). Since the OpSpecs require that the operator use the higher ceiling and visibility, the minimums for the airport with two straight-in approaches are higher than for the airport with only one straight-in approach. When this situation exists, the operator may elect to consider the airport as having only one straight-in approach procedure and may add the higher buffer requirement (400 ft and 1 mi) to whichever straight-in approach procedure provides for the lowest possible ceiling and visibility minimums.

E. Using Two Different Runways. Two different runways may be the different ends of the same physical runway surface (such as, runway 4 and runway 22 are two different runways).

When determining the suitability of a runway, wind plus gust must be forecast to be within operating limits, including reduced visibility and runway contamination limits, and should be within the manufacturer's maximum demonstrated crosswind. The operator should also take into account any other potential runway limitations, such as Notices to Airmen (NOTAM) that may affect the landing at the estimated time of arrival (ETA).

F. Credit for Alternate Minimums. OpSpec C055 allows credit for alternate minimums for airports with a published Category (CAT) II or CAT III approach based on engine inoperative CAT II or CAT III capability. This change is located in the Alternate Airport Table in row 3 and 4. Flightcrews having that capability may take credit for engine inoperative CAT II/III qualified aircraft and adjust minimums accordingly. The alternate minimums are based on CAT III engine inoperative requirements. The ceiling and visibility required for CAT II procedures is a ceiling of at least 300 ft and a visibility of at least RVR 4000, or for CAT III procedures, a ceiling of at least 200 ft height above touchdown (HAT), and a visibility of at least RVR 1800. Foreign air carriers having that capability may take credit for CAT II/III-qualified aircraft and adjust minimums accordingly. The alternate minimums are based on CAT III engine inoperative requirements.

1) The following are some but not all of those requirements. See the criteria in the current edition of Advisory Circular (AC) 120-28, Criteria for Approval of Category III Weather Minima for Takeoff, Landing, and Rollout—engine inoperative, for further requirements.

a) The aircraft is capable of engine inoperative CAT III.

b) The carrier has established appropriate procedures.

c) Performance and obstruction clearance information has been provided to the flightcrew.

d) Appropriate aircraft configuration, wind limits, and other appropriate information is provided to the flightcrew.

2) Before authorizing the CAT II/III table, the POI shall ensure through documentation that the foreign air carrier has provided that subparagraphs E1)a) through d) above are met and the air carrier's civil aviation authority (CAA) authorizes it for CAT II/III alternate minimum. If the foreign air carrier does not meet the preceding conditions, enter "NA" in the ceiling and visibility blocks of Table 3.

G. Definition of "Two Operational Facilities." Question: "Does the FAA consider an ILS facility that contains a single transmitter frequency for an ILS, but with two different ILS identifications (depending on which runway is being used) as one or two navigational facilities?"

1) The words "two operational facilities" have always meant that in the event there is a single failure of one facility, the other would be operational. In the situation where both instrument landing system (ILS) facilities share a single transmitter, it would be considered "one operational navigational facility," because both ILSs would become inoperative in the event of a single transmitter failure.

2) The two ILS identifiers would have to be different even though the ILS transmitter frequency is the same for both. The charts should tell pilots whether there is one frequency or two. Thus, one or two navigational facilities.

H. Use of Area Navigation (RNAV) Global Positioning System (GPS) Minima at a Destination Alternate. Pilots may plan to use any instrument approach authorized for use with wide area augmentation system (WAAS) avionics at a required alternate if the aircraft is suitably equipped with GPS WAAS equipment and the foreign air carrier is authorized to conduct Localizer Performance with Vertical Guidance (LPV) and/or Localizer Performance (LP) approach and landing operations by the State of Operator. When using WAAS at an alternate airport, flight planning must be based on flying the RNAV (GPS) lateral navigation (LNAV) minimums line, or minimums on a GPS approach procedure, or conventional approach procedure with "or GPS" in the title. Also, RNAV (GPS) (or RNAV Global Navigation Satellite System (GNSS)) are based on a single navigational facility when determining the approach facility configuration in Table 1 below, even if there are two or more RNAV (GPS) approaches to different suitable runways. Upon arrival at an alternate, when the WAAS navigation system indicates that LNAV/vertical navigation (VNAV) or LPV service is available, vertical guidance may be used to complete the approach using the displayed level of service. The FAA has begun removing the *NA* (alternate minimums not authorized) symbol from select RNAV (GPS) and GPS approach procedures so they may be used by approach approved WAAS receivers at alternate airports. Some approach procedures will still require the *NA* for other reasons (e.g., no weather reporting); therefore, it cannot be removed from all procedures. Because every procedure must be individually evaluated, removal of *NA* from RNAV (GPS) and GPS procedures will take some time.

I. Selectable Text and Tables. There are two selectable rows which can be loaded into Table 1 and two paragraphs of selectable text in C055:

1) The two selectable rows in Table 1 authorize lower alternate minimums when planning to use either a CAT II or CAT III approach at the alternate airport. If a CAT II or CAT III credit is authorized, the first selectable text paragraph must be loaded as well.

2) The first selectable text paragraph states requirements for CAT II and CAT III credit applicable to alternate airport flight planning, and must be loaded if the operator is authorized the CAT II or CAT III credit described in subparagraph I1) above.

3) The second selectable text paragraph authorizes operators equipped with WAAS to use GPS approaches when determining an alternate, and lists the restrictions associated with using GPS approaches in alternate planning.

4) There are three selectable text options:

"1(a). Load this text if the operator is authorized CAT II or III alternate mins;" OR

"1(b). Load this text if the operator is authorized GPS/WAAS alternate mins;" OR

"1(c). Load this text if the operator is authorized CAT II or III AND GPS/WAAS alternate mins."

OPSPEC C056—IFR TAKEOFF MINIMUMS (LARGE AIRPLANES) AND C057—IFR TAKEOFF MINIMUMS (SMALL AIRPLANES)—ALL U.S. AIRPORTS AND ALTERNATE AIRPORTS FOR DEPARTURE (OPTIONAL).

A. General. This section contains information that Operations inspectors should use concerning lower-than-standard takeoff minimums for foreign air carriers. OpSpecs C056 and C057 are optional for authorizing lower-than-standard takeoff minima. The FAA issues OpSpec C056 to foreign air carriers who conduct instrument flight rules (IFR) operations with large airplanes as defined in OpSpec A002. If a foreign air carrier conducts operations with small airplanes as defined in OpSpec A002 or both large and small airplanes, then OpSpec C057 will also need to be issued. These OpSpecs contain specific guidance regarding pilots, aircraft, and airports when lower-than-standard takeoff minimums are used.

B. Authorization. OpSpecs C056 and C057 authorize lower-than-standard takeoff minima of touchdown zone (TDZ) Runway Visual Range (RVR) 1600 (500 meters (m)). If TDZ RVR is inoperative, mid-point RVR may substitute for TDZ RVR. Below RVR 1600, two operating RVR sensors are required and controlling. If more than two RVR sensors are installed, all operating RVR sensors are controlling, with the exception of a fourth, far-end RVR sensor which may be installed on extremely long runways. A far-end RVR sensor is advisory only. OpSpecs C056 or C057 allow the selection of the following lower-than-standard takeoff minima based on flightcrew training, checking, and allowed authorizations:

1) TDZ RVR 1200 (350 m), mid-point (if installed) RVR 1200 (350 m), and rollout RVR 1000 (300 m);

2) TDZ, mid-point (if installed), and rollout RVR 1000 (300 m);

3) TDZ, mid-point (if installed), and rollout RVR 600 (175 m); or

4) (C056 Only) TDZ, mid-point (if installed), and rollout RVR 500 (150 m).

Table 12-4B. Runway Equipment Requirements for Lower-Than-Standard Takeoff Minima

Serviceable Runway Visual Aid Required	Lowest Allowable Takeoff Minimum Authorization
If a Runway Visual Range (RVR) sensor is not available:	
Adequate visual reference, *or* Any *one* of the following: • Centerline lighting • High Intensity Runway Light (HIRL) • Runway centerline marking (RCLM)	1/4 mile (mi) (500 meters (m))
If an RVR sensor is available:	Note: Below RVR 1600, 2 operating RVR sensors are required. All operating RVR sensors are controlling (except per the note below for far end sensors).
Adequate visual reference, or any *one* of the following: Centerline lighting HIRL RCLM	RVR 1600 feet (ft) (500 m)/NR/NR Mid-point can substitute for an unavailable touchdown.
Day: Centerline lighting or HIRL or RCLM Night: Centerline lighting or HIRL	RVR 1200 ft (350 m)/1200 ft (350 m)/1000 ft (300 m)
RCLM and HIRL, or Centerline lighting	RVR 1000 ft/1000 ft/1000 ft (300 m)
HIRL and Centerline lighting	RVR 600 ft/600 ft/600 ft (175 m) or RVR 500 ft/500 ft/500 ft (150 m)
With an approved head-up display (HUD) takeoff guidance system, HIRL, and Centerline lighting	RVR 300 ft/300 ft/300 ft (75 m)

NOTE: Extremely long runways (e.g., DEN 16R) utilize four RVR sensors (i.e., TDZ, mid, rollout, and far-end). When a fourth far-end RVR value is reported, it is not controlling and is not to be used as one of the two required operative RVR sensors.

C. Small Airplanes. OpSpec C057 allows for lower-than-standard takeoff minima for foreign air carriers conducting operations in small airplanes as defined in OpSpec A002 with the following limitations and provisions:

1) Each aircraft must be operated with a flightcrew consisting of at least two pilots. Use of an autopilot in lieu of a required second in command (SIC) is not authorized.

2) Each pilot station must have operational equipment which displays a reliable indication of the following:

a) Aircraft pitch and bank information (attitude) (from a gyroscopic or attitude heading reference system source);

b) Aircraft heading (from a gyroscopic or magnetic direction indicating source);

c) Vertical Speed (VS);

d) Airspeed;

e) Altitude; and

f) Each pilot station must have an independent source of power for the equipment required by subparagraph C2)a), aircraft pitch and bank (attitude), and C2)b), aircraft heading (above).

3) Each pilot in command (PIC) must have at least 100 hours flight time as PIC in the specific make and model airplane used under this authorization. Each PIC must have satisfactorily completed the foreign air carrier's training program approved by their civil aviation authority (CAA) (as applicable) and qualification check for the minima approved by this authorization. This includes the methods to be used to ensure compliance with the aircraft performance limitations during takeoffs with RVR less than RVR 1000 (300 m), when applicable.

4) Any SIC authorized to manipulate the flight controls during lower-than-standard takeoff minima must have at least 100 hours flight time as a pilot in the specific make and model airplane, and must have satisfactorily completed the foreign air carrier's training program approved by their CAA and qualifications check for those minima, when applicable.

5) For takeoffs when the RVR is less than RVR 1000 (300 m), each airplane used must be operated at a takeoff weight which permits the airplane to achieve the performance equivalent to the takeoff performance specified for transport category aircraft.

D. Training. The principal operations inspector (POI) shall ensure that foreign air carriers requesting lower-than-standard takeoff minimums provide documentation that their flightcrew training program, approved by their CAA, includes all procedures contained in OpSpec C056 and that the lower-than-standard minimums have been approved by the State of Operator.

1) That training program must contain at least the following, as applicable:

- Rejected takeoffs in a low visibility environment;
- Engine failure at V_1 in low visibility;
- Taxiing in a low visibility environment with emphasis on preventing runway incursion;
- Critical areas;
- Crew coordination and planning;
- Dispatcher training;

- Procedures for operators not using dispatch systems;
- Required ground-based visual aids (such as stop bars, taxiholding position lights);
- Required ground-based electronic aids (such as ILS/MLS transmissometers); and
- Determination of takeoff alternate airports, as applicable.

2) Flight Training Maneuvers for Takeoffs.

a) For low visibility takeoff (RVR less than 2400 RVR), the following maneuvers and procedures should be addressed (may be combined) as referenced in the current edition of Advisory Circular (AC) 120-29, Criteria for Approval of CAT I and CAT II Weather Minima for Approach:

1. Normal takeoff,

2. Rejected takeoff from a point prior to V_1 (including an engine failure),

3. Continued takeoff following failures including engine failure, and any critical failures for the aircraft type which could lead to lateral asymmetry during the takeoff,

4. Limiting conditions. The conditions under which these normal and rejected takeoffs should be demonstrated include appropriate limiting crosswinds, winds, gusts, and runway surface friction levels authorized.

b) A demonstration should be done at weights or on runways that represent a critical field length.

E. The Automated Operations Safety System (OPSS) Entry When Issuing OpSpec C056. When issuing OpSpec C056, the POI may select one of the four text options in the OPSS select data screen and click on the load data button if the foreign air carrier is authorized takeoff minimums lower than 1600 RVR (500 m):

"1(a). Load this text if the operator is authorized 1200 RVR, 1000 RVR, and 500 RVR; OR"

"1(b). Load this text if the operator is authorized 1200 RVR, 1000 RVR, and 600 RVR; OR"

"1(c). Load this text if the operator is authorized 1200 RVR and 1000 RVR; OR"

"1(d). Load this text if the operator is authorized 1200 RVR - If ONLY 1600 RVR authorized, there is no additional text to load."

F. OPSS Entry When Issuing OpSpec C057. When issuing OpSpec C057, the POI must select one and/or two options in OPSS select data screen and the click on the load data button:

1) "Load when takeoff minimums are equal to or less than the applicable standard takeoff minimum."

2) "Load when takeoff minimum is lower than standard (must also select above statement)."

OPSPEC C059—CATEGORY II INSTRUMENT APPROACH AND LANDING OPERATIONS (OPTIONAL).

A. Conditions for Approval. Category (CAT) II operations are approved by issuance of OpSpec C059 to foreign air carriers for 14 CFR part 129 operations. Before the FAA issues OpSpec C059, each foreign air carrier and each airplane type used by that foreign air carrier require approval by the State of Operator.

B. Evaluation. CAT II operations are evaluated for approval in accordance with the following:

1) The current edition of advisory circular (AC) 120-29, Criteria for Approval of Category I and Category II Weather Minima for Approach..

2) Volume 4, Chapter 2.

3) For foreign-registered airplanes, a Lower Landing Minimums (LLM) maintenance program approved by the State of Operator and for U.S.-registered airplanes, an LLM maintenance program approved by the FAA in accordance with Volume 4, Chapter 2, Section 11, in coordination with the principal avionics inspectors (PAI) and principal maintenance inspectors (PMI).

4) Approval of the State of Operator is also required before amending OpSpec/MSpec/LOA C059 to include an airplane make, model, and series (M/M/S) new to the foreign air carrier.

C. Approved Airplanes. Each airplane type (M/M/S) used in CAT II operations must be listed in Table 1 of C059 (see Table 12-5, Example Category II Approach and Landing Minimums, for example) and have an acceptable LLM maintenance program approved by the State of Operator and, in the case of U.S.-registered airplanes, it must be approved by the FAA in accordance with part 129, § 129.14. The lowest decision height (DH) and lowest Runway Visual Range (RVR) authorized for each airplane type must also be specified. The example in Table 3-17 illustrates the method for authorizing each airplane in OpSpec/MSpec/LOA C059:

Table 12-5. Example Category II Approach and Landing Minimums (Sample Table 1)

CAT II Approach and Landing Minimums		
Airplane M/M/S	**DH Not Less Than**	**Lowest Authorized RVR**
DOUG DC9 31	100 ft	1600 RVR
BOEING 727 217	100 ft	1600 RVR
AIRBUS 300 A300B4103	100 ft	1200 RVR
BOEING 757-200	100 ft	1200 RVR
LKHEED 1011 385114	100 ft	1200 RVR
DHC-8-402	100 ft	1000 RVR
BOEING 737-700	100 ft	1000 RVR
BOEING 777-200	100 ft	1000 RVR

D. Required CAT II Airborne Equipment. The equipment required to conduct manually flown or automatically flown CAT II operations is specified in Table 2 of OpSpec C059 (see Table 12-6, Example of CAT II Items of Equipment (Sample Table 2)) for each airplane M/M/S. The equipment required is established in accordance with the applicable regulations, the approved Aircraft Flight Manual (AFM) (if applicable), and AC 120-29. There are two acceptable methods of demonstrating that an airplane is airworthy for CAT II operations. These acceptable methods are "type design approval," obtained by a manufacturer or Special Type Certification (STC) holder, or an "operational demonstration," conducted by the foreign air carrier.

1) Type Design Approval. The approved AFM (or flight manual supplement), for airplanes that have CAT II type design approval, contains a statement that the airborne systems have demonstrated the reliability and redundancy necessary for CAT II operations in accordance with AC 120-29. AFMs also specify that certain equipment is required for airworthiness approval of the various kinds of CAT II operations. Some AFMs also indicate that acceptable CAT II performance was demonstrated both with, and without, certain equipment (e.g., "autothrottles with or without"). AC 120-29 also specifies that certain types of equipment are required for operational approval of the various kinds of CAT II operations (manual/autopilot). Therefore, both the approved AFM and AC 120-29 must be considered in determining if the additional equipment requirement must be listed (specified) in Table 2 of OpSpec C059. The illustration below shows how the additional or required equipment should be listed in Table 2 of OpSpec C059.

a) Equipment that is explicitly required by the airplane certification regulations (14 CFR parts 23 and 25, or the foreign equivalent), the operating regulations (14 CFR parts 91 and 129) and/or the approved AFM should not be listed in Table 2. The standard text of C059 requires this equipment to be functional. Therefore, the additional equipment or operational requirement that must be listed (specified) in OpSpec C059 is determined by cross-checking the type of equipment required by AC 120-29 for the kinds of CAT II operations proposed against the equipment required by regulations and the approved AFM.

b) Enter into Table 12-6 the additional equipment for the M/M/S and kind(s) of CAT II operations authorized. Do not include equipment explicitly required by regulations and/or the AFM (e.g., autoland for B-747 operations below RVR 1600). Do include additional equipment required in any of the following: AC 120-29, an STC, an Aircraft Flight Manual Supplement (AFMS), the current edition of Order 8400.13, Procedures for the Evaluation and Approval of Facilities for Special Authorization Category I Operations and All Category II and III Operations.

c) When the AFM indicates acceptable performance either with or without certain items of equipment (which are not explicitly required by AC 120-29), it must be determined how the foreign air carrier intends to conduct CAT II operations and train flightcrews with those items of equipment. If the foreign air carrier proposes to conduct operations either with or without certain items of equipment (such as autothrottle, autopilot), flightcrews must be trained for both situations and the item of equipment does not need to be listed in Table 2 of OpSpec C059.

2) Operational Demonstration. This method is used when equipment eligibility is not stated in the AFM, the AFMS, or the Flight Standardization Board (FSB) report. The operational demonstration method is only appropriate for airplanes and equipment that do not have CAT II type design approval. The operational demonstration must be conducted in accordance with AC 120-29. A part 129 foreign air carrier should request that its responsible Flight Standards District Office (FSDO)/International Field Office (IFO)/International Field Unit (IFU) provide assistance in the eligibility assessment.

a) The foreign air carrier should provide the responsible FSDO/IFO/IFU with the aircraft make, model, and serial number, any evidence of instrument flight rules (IFR) approach approval, and pertinent information from flightcrew operating procedures.

b) For U.S.-registered aircraft, if the responsible FSDO/IFO/IFU is unable to determine equipment eligibility from the approved documentation, it should forward the request and supporting data through its FAA regional Flight Standards division (RFSD) to the appropriate Aircraft Evaluation Group (AEG). The AEG will verify that the aircraft and its landing system meet the criteria for CAT II operations, and that the system can safely fly the CAT II approach procedures. The AEG will provide written documentation (e.g., amended FSB report or other official documentation) to verify the eligibility of that equipment.

c) For foreign-registered aircraft, the foreign air carrier should forward the request and supporting data to the appropriate State Civil Aviation Authority (CAA) to verify eligibility of equipment.

E. Table 2 Guidelines. The kind of CAT II operation (manual head-up display (HUD), and/or autopilot) must be specified for each item of equipment listed in Table 2 of OpSpec C059. The following guidelines should be followed for filling out Table 2:

1) CAT II equipment required by the regulations or the approved AFM should not be listed.

2) The required airborne equipment table combines the manual HUD and autopilot columns into one column for programming purposes. The POI will select the appropriate phrase: manual HUD, or autopilot.

3) If an item of equipment is applicable to a specific airplane's M/M/S for both manual HUD and autopilot CAT II operations, both manual HUD and autopilot can be highlighted and selected for insertion into the column.

4) The equipment required for RVR 1000 CAT II authorization is to be listed in the "Additional Equipment" column.

5) See Table 12-6 below for examples of how the items of equipment should be specified for the kind of CAT II operation.

Table 12-6. Example of Category II Items of Equipment (Sample Table 2)

Kind of CAT II Operation		
Airplane (Make/Model/Series (M/M/S))	**Additional Equipment & Special Provisions**	**Manual Head-Up Display (HUD)/ Autopilot**
Boeing 767 219	1. Approach coupler and flight director (FD) must be operative.	autopilot
Boeing 757-232	1. An independent FD and display for each pilot (L and R or C and R).	autopilot
Boeing 737-200	None- Approved Flight Manual (AFM) guidance.	Manual Head-Up-Guidance System (HGS) or autopilot
NIHON YSII A200	Approved Flight Manual Supplement (AFMS) dated 3/26/2003.	autopilot

F. Airplane Maintenance. For CAT II authorization, the foreign air carrier must have an acceptable LLM maintenance program.

1) For U.S.-registered airplanes, this LLM maintenance program shall be in accordance with Volume 4, Chapter 2, Section 3, and must be approved by the FAA in accordance with § 129.14. This LLM maintenance program should be coordinated with the principal Airworthiness inspectors and PAIs.

2) For foreign-registered airplanes, this LLM maintenance program shall be approved by the State of Operator.

G. Flightcrew Qualifications. Flightcrews are trained and checked in accordance with the foreign air carrier's approved training program for CAT II operations authorized with a DH of 100 ft and RVR 1,000 ft (300 m), and these minimums are approved by the State of Operator. If the flightcrew is currently authorized CAT III operations, no further training is required for this authorization in C059.

H. Authorized CAT II Approach and Landing Minimums. To determine the applicable minima for an approach, the pilot must first compare the DH shown on the 14 CFR part 97 approach chart with the foreign air carrier's lowest authorized DH for the airplane being flown. The higher number is used. Then, the RVR to be used for the approach is the highest RVR value shown in the approach chart, Table 1 of the OpSpec or subparagraph g. of the OpSpec, considering RVR sensor reports available.

I. Authorized CAT II Approaches, Airports, and Runways.

1) If the airport and runways are approved for CAT II operations in part 97, they should not be routinely listed in OpSpec C059 unless the POI determines there is a need to specify a special limitation for foreign air carriers at a particular airport.

a) Standard CAT II approaches are published in the National Aeronautical Charting Office (NACO) instrument approach procedures (IAP) flight information publication as CAT II procedures. They are identified by the procedure name "ILS RWY 16C (CAT II)" and by the note in the minima section stating "CATEGORY II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED."

b) Reduced lighting CAT II approaches are published by NACO with the same identifiers as standard CAT II approaches, but they also have a note in the Procedure Notes section stating, "Procedure does not meet ICAO standard for Approach Lighting System With ALSF/TDZ/CL lighting systems. Requires specific OPSPEC, MSPEC or LOA approval. Requires Autoland or HUD to touchdown."

2) Standard CAT II. The foreign air carriers may be authorized up to three different minima for use with published 14 CFR part 97 approaches, 1600 RVR, 1200 RVR, and 1000 RVR. Allowable minima depend on availability of RVR sensors and availability and use of required airplane equipment.

a) 1600 RVR (touchdown zone (TDZ) RVR only) and 1200 RVR (TDZ and one other RVR) minima require the flightcrew to use an approach coupler or to fly under manual control using a HUD for flight guidance at least to DH. A manually flown landing is assumed and need not be specified.

b) 1000 RVR (TDZ RVR and one other RVR) minima requires the flightcrew to use autoland or to fly under manual control using a HUD to touchdown.

1. For operations to touchdown, the airplane and its automatic flight control guidance system (AFCGS), or manually flown guidance system, are approved for approach and landing operations as specified by AC 120-29.

2. For manual control using a HUD to touchdown, the HUD must be flown in a CAT III mode.

c) Foreign air carriers authorized reduced lighting CAT II as described in subparagraph I.3) below may also be authorized to conduct approaches to standard CAT II facilities when the TDZ and/or centerline (CL) lights are inoperative. They must comply with all

requirements in subparagraph I.2), using minima appropriate to the RVR available and using autoland or manual HUD to touchdown.

3) Reduced Lighting CAT II. In addition to the standard CAT II operations authorized by OpSpec C059, reduced lighting CAT II operations can be authorized to qualifying runways that do not meet the performance or equipment requirements normally associated with a compliant CAT II operation (e.g., TDZ lighting, CL lighting, or Approach Lighting System With Sequenced Flashing Lights (ALSF)-1 & 2).

a) Approval criteria for reduced lighting CAT II approaches are given in FAA Order 8400.13, where they are described as CAT II Approach Operations on Type I ILS facilities. These Type I facilities are CAT I ILS installations that meet the glideslope (GS) and localizer signal quality requirements of CAT II facilities. The reduced lighting requirements are mitigated by the required increase in aircraft capabilities (i.e., HUD and/or autoland).

b) RVR requirements and available minima are the same as standard CAT II, 1600 RVR (TDZ RVR only) and 1200 RVR (TDZ and one other RVR), but these minima require the flightcrew to use autoland or to fly under manual control using a HUD to touchdown.

c) Aircraft operational approval, HUD usage and flightcrew training requirements are the same as for standard CAT II to 1000 RVR.

4) The lists restricted U.S. facilities approved for CAT 2-3 operations and U.S. runways approved for CAT II on Type I operations can be found on the Flight Operations Branch (AFS-410) Web site at http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs410/status_lists/.

J. Missed Approach Requirements. The missed approach decision point has been changed from 1,000 feet (ft) above touchdown to the final approach fix (FAF). After passing the FAF, if the required visual landing references are not acquired, and any failure of required equipment occurs, or if the primary guidance system in use (autopilot or HUD) is disengaged for any reason, the flightcrew must execute the missed approach. The exception to this requirement is that if both guidance systems are properly briefed and engaged before reaching the FAF and one system is disengaged or fails after the FAF, the remaining guidance system is considered the primary and the approach may be continued.

K. CAT II Runway Restrictions. The requirement to conduct automatic landings in reduced lighting and 1000 RVR operations implies that autoland restrictions imposed by pre-threshold terrain must be considered. Approaches that have pre-threshold terrain problems will have a note on the approach chart requiring a special autoland evaluation. Approved runways will be on the AFS-410 Web site.

OPSPEC C060—CATEGORY III INSTRUMENT APPROACH AND LANDING OPERATIONS (OPTIONAL). The FAA evaluates Category (CAT) III operations in accordance with the current edition of Advisory Circular (AC) 120-28, Criteria for Approval of CAT III Landing Weather Minima for Takeoff, Landing, and Rollout, equivalent European Aviation Safety Agency (EASA) criteria, or the International Civil Aviation Organization (ICAO) DOC 9365/AN910, Manual of All Weather Operations. The FAA authorizes CAT III operations by issuing OpSpec C060. Each airplane type make, model, and serial (M/M/S) used in CAT III operations must be listed in OpSpec C060 subparagraph a along with the Decision Height (DH)/Alert Height (AH), lowest Runway Visual Range (RVR) authorized, and runway field length factor for the type of CAT III operation authorized. Foreign air carriers requesting authorization for CAT III at U.S. airports should meet the following criteria.

A. Acceptable Criteria. Criteria acceptable for use for assessment of foreign air carrier's applications for CAT III at U.S. airports include AC 120-28, equivalent EASA criteria, or the ICAO Manual of All Weather Operations DOC 9365/AN910. Foreign air carriers previously approved by the FAA in accordance with earlier criteria may continue to apply those earlier criteria. Foreign air carriers seeking credit for operations addressed only by the current edition of AC 120-28 (e.g., CAT III head-up display (HUD) operations) must meet the criteria of this AC, or equivalent criteria acceptable to the FAA, for those applicable provisions.

B. Foreign Air Carrier Aircraft Flight Manual (AFM) Provisions. Unless the FAA authorizes otherwise, aircraft used by foreign air carriers for CAT III within the United States should have AFM provisions reflecting an appropriate level of CAT III capability as demonstrated to or authorized by the FAA, or demonstrated to or authorized by a civil aviation authority (CAA) recognized by the FAA, as having acceptable equivalent CAT III airworthiness criteria (e.g., EASA, Canada Minister of Transportation (MOT), UK CAA).

C. Foreign Air Carrier CAT III Demonstrations. Foreign air carriers meeting FAA criteria, or criteria acceptable to the FAA (e.g., EASA, ICAO criteria including Doc. 9365/AN910), and having more than 6 months experience in the use of CAT III operations with the applicable aircraft type may be approved for CAT III in accordance with the provisions of their own CAA, or in accordance with the standard provisions of OpSpec C060, whichever is the more restrictive. The FAA does not require a separate demonstration period if the foreign air carrier's CAA does not require it. However, foreign air carriers authorized in accordance with this provision may nonetheless be subject to additional FAA demonstration for special situations, such as at airports with irregular underlying terrain (see subparagraph D below), or for aircraft types not having flown to U.S. facilities having CAT III procedures. For foreign air carriers having current U.S. CAT III authorization, the CAT III demonstration period may be reduced or waived for the addition of a new type aircraft to the existing CAT III authority. The demonstration period may be reduced or waived to the extent that the FAA has accepted a successful demonstration for that aircraft type for any other U.S. or foreign air carrier. Foreign air carriers not meeting the above provisions may be subject to the demonstration described in paragraphs 10.5.2 and 10.9 of the current edition of AC 120-28 (equivalent to those necessary for U.S. operators) as the FAA determines applicable.

D. Issuance of 14 CFR Part 129 OpSpecs. If a foreign air carrier operating to U.S. airports meets the above applicable provisions, the FAA authorizes that air carrier for CAT III by

issuing OpSpec C060. Air Carriers intending CAT III operations at U.S.-designated irregular terrain airports, or airports otherwise requiring special assessments, must successfully complete those assessments before using those facilities.

E. Use of Certain Restricted U.S. Facilities.

1) Foreign air carriers typically use CAT III procedures in the United States that are available as unrestricted public use procedures. However, the FAA may also authorize certain restricted public use procedures and special CAT III approach procedures for non-U.S. operators. Typically, these procedures require special airborne equipment capability, special training, or nonstandard facility and obstacle assessments. The CAT II/III status checklist identifies these special procedures. They are not usually published as a 14 CFR part 97 CAT III Standard Instrument Approach Procedure (SIAP). Foreign air carriers may be eligible to use certain of these procedures if they meet the same special criteria as would apply to a U.S. operator, and if their own CAA approves them specifically for the use of the procedure. Some procedures may not be eligible for foreign air carriers because of other applicable restrictions such as a restriction placed on private facility use. Special or restricted procedures require both FAA authorization and specific authorization from the foreign air carrier's CAA for each procedure. This is to ensure that both the operator and foreign CAA are aware of the special provisions needed, and to ensure equivalent safety to use of standard ICAO criteria. Each foreign air carrier seeking CAT III procedure authorization at a facility not published as a standard and unrestricted CAT III SIAP, or at any other facilities that the FAA CAT II/III status checklist identifies as special or restricted, and that carrier's CAA must:

a) Be aware of the restrictions applicable to the procedure (e.g., facility status),

b) Provide evidence to FAA of the CAA's approval of the foreign air carrier for each special procedure requested, and

c) Must have the applicable limitations and conditions included in that air carrier's OpSpecs for each procedure to be used.

2) Foreign air carriers shall not normally be authorized special CAT III operations to minima lower than those specified in part 97 CAT III SIAPs consistent with ICAO criteria. If special instrument approach procedures (IAP) other than those specified in part 97 are authorized, paragraph C381 shall also be issued.

F. Type of CAT III Operation. The type of CAT III landing system and rollout control system (fail-passive and/or fail-operational) must be specified for each airplane type in OpSpec C060, Table 1. This is accomplished by selecting the type of operation from the select data screen in the automated Operations Safety System (OPSS). Selections available are NA=Not applicable; FP=Fail Passive, or FO=Fail Operational.

G. DH/AH and Lowest RVR. In Table 1, enter the DH/AH and lowest authorized RVR that the State of Operator has authorized for each airplane M/M/S and type of CAT III operation.

H. Field Length Factor Required. Runway field length factor is used in determining the required runway field length for CAT III operations and is multiplied times the runway field

length required by State of Operator performance regulations or ICAO Annex 6 performance requirements, whichever are more restrictive.

1) OpSpec C060 Table 1 must specify the runway field length factor required for the various kinds of CAT III operations for each airplane. For operations with a controlling RVR at or above 600 feet (ft) the required field length is 1.15 times the field length required by the previously cited regulations, or AFM as appropriate.

2) For a precision instrument approach and landing with a controlling RVR below 600 ft, the required field length is either 1.15 or 1.3 times the field length required by the previously cited regulations depending on the operational procedures and/or additional equipment the operator uses or AFM, as appropriate.

I. Special Operational Equipment and Limitations. OpSpec C060 subparagraph a Table 1 should not list equipment that the airplane certification regulations (14 CFR parts 23 and 25 or foreign equivalent if foreign-registered), the operating regulations of 14 CFR, and/or the approved AFM explicitly require. The "Special Operational Equipment and Limitations" column is provided for equipment that is in addition to that required by regulation and not included in the AFM. For example, additional equipment may be required if a field length factor of 1.15 is used in operations below RVR 600 where a procedural means alone is not acceptable (see AC 120-28). For foreign air carriers that have CAT III approval, copy the airplane M/M/S, rollout control system (e.g., FP or FO), the DH/AH, and lowest authorized RVR for each rollout control system into Table 1. Determine the field length factor as described above (e.g., 1.3 or 1.15) and copy special operational equipment and limitations noted in the air carrier's current OpSpec C060, if any, and insert that information into Table 1 of the new OpSpec. If the operator does not need special operational equipment, put "NA" under the appropriate column. Do not delete or leave any cells blank.

NOTE: Only include that equipment which is not explicitly required by the regulations and/or the Airplane Flight Manual.

J. Authorized CAT III Airports and Runways.

1) All airports and runways to which a foreign air carrier is authorized to conduct CAT III instrument approach and landing operations need to be entered in Table 2, along with any required limitations.

2) CAT II/III status lists. The lists contain information concerning U.S. airports/runways approved for CAT II and CAT III instrument landing system (ILS) operations. The CAT II/III status list will be published semi-annually on January 31 and July 31. The CAT III lists in Sections 3, 4, and 7 replace the information in FAA Order 8400.8, Procedures for the Approval of Facilities for FAR Part 121 and Part 135 Cat III Operations, appendix 4.

OPSPEC C063. Please refer to Volume 3, Chapter 18, Section 4.

OPSPEC C064. DECOMMISSIONED.

OPSPEC C065—POWERBACK OPERATIONS WITH AIRPLANES (OPTIONAL). OpSpec C065 authorizes the use of powerplant reversing systems for rearward taxi operations. Before issuing OpSpec C065, the foreign air carrier must provide documentation to enable the principal operations inspector (POI) to determine whether the carrier has established procedures for powerback operations that its civil aviation authority (CAA) has accepted/approved. Airplane types make, model, and series (M/M/S) authorized for powerback operations must be listed in OpSpec C065. Airports where powerback operations are authorized must also be listed. If the POI and/or foreign air carrier determine that restrictions to powerback operations are required at certain gates or ramp areas, the restrictions must be described (adjacent to the airport name) in the "Restrictions and Limitations" column.

OPSPEC C067—SPECIAL AUTHORIZATIONS, PROVISIONS, AND LIMITATIONS FOR CERTAIN AIRPORTS (required for all foreign air carriers).

A. General. OpSpec C067 authorizes and limits the foreign air carrier's operation of airplanes into certain airports. These authorizations and limitations include the following types of operations:

- Foreign air carriers conducting certain passenger-carrying operations into uncertificated airports (see subparagraph C),
- Foreign air carriers conducting operations at airports that require curfew limitations for flights into or out of specific airports (see subparagraph D),
- Foreign air carriers conducting operations into airports that because of operational considerations may require special aircraft performance charts and equipment, special lighting (flare pots, etc.), or unpaved runways (see subparagraph D),and
- Foreign air carriers conducting operations using the Reginald Bennett International (RBI) Runway Reflectorization System in Alaska (see subparagraph D2).

B. Authorizations Where Other OpSpecs Are Applicable.

1) OpSpec C050 for "special PIC qualification airports" is applicable for the airport if contained on the List of Special Pilot In Command Qualifications Airports at the Flight Standards Information Management System (FSIMS) http://fsims.faa.gov, Publications, Operations Safety System (OPSS) Documents, Operations Safety System (OPSS) Guidance. Do not list those airports in OpSpec C067 unless one of the items in subparagraph A also applies.

2) Use OpSpec C381 for listing the airports/runways where the Flight Technologies and Procedures Division (AFS-400) has approved specific "special" instrument procedures for a foreign air carrier.

3) OpSpec C064 and C080 are applicable for authorizing a foreign air carrier to conduct airplane operations in airport terminal areas in Class G airspace or at airports without an operating control tower.

C. Uncertificated Airports. Title 49 of the United States Code (49 U.S.C.) § 44706, and 14 CFR part 121, § 121.590 impose restrictions on U.S. carriers operating certain types of

passenger-carrying operations into U.S. land airports that are not certified under 14 CFR part 139 and allow for authorization for such operations by the FAA. OpSpec C067 imposes the same restrictions for foreign air carriers operating to U.S. land airports under 14 CFR part 129 and makes allowances for certain authorizations.

1) Limitations on the use of uncertificated U.S. land airports by passenger-carrying airplanes in OpSpec C067 are designed to mirror the requirements of § 121.590.

2) In accordance with the requirements of OpSpec C067, a foreign air carrier may be authorized to conduct passenger-carrying airplane operations into an airport (military and nonmilitary) operated by the U.S. Government that is not certificated under part 139 if those airports to be used meet:

- The equivalent safety standards for airports certificated under part 139, and
- The equivalent airport classification requirements under part 139 to serve the type of airplanes to be operated and the type of operations to be conducted.

3) Inspectors may grant authorization to serve such airports by entering the location/identifier of each airport, and the make, model, and series (M/M/S) of the airplanes to be operated in Table 1, provided the State of Operator civil aviation authority (CAA) has also approved/accepted the operation.

4) Operators should obtain permission from the airport manager of nonmilitary airports and the base commander of military airports to operate at these airports before starting operations.

5) This permission is not needed for operations at joint-use civil and military airports.

D. Other Special Authorizations.

1) Other special authorizations, limitations, and provisions include those operations that would require special operational considerations and special flightcrew member training if operations were conducted by a U.S. carrier. (See guidance in Volume 4, Chapter 3, Section 5.) Each of these operations must also be approved/accepted by the State of Operator CAA. These may include but are not limited to:

- Operations into airports with special runway markings, such as flare pots or trees;
- High altitude airports with special airplane performance requirements; and
- Airports with unpaved runways or runways constructed on frozen lakes and rivers.

2) Special authorization for conducting operations at airports in Alaska. For authorization to conduct airplane operations using the RBI Runway Reflectorization System in Alaska:

a) The air carrier must provide a station agent at the airport trained to give wind information to the flightcrew, and

b) The air carrier must train its flightcrews on this specific system in accordance with an approved training program. The training program must be approved in accordance with the following criteria:

1. Each pilot must receive initial and recurrent training in accordance with their company's training program approved by the State of Operator's CAA.

2. Each person must complete initial training (both ground and flight personnel) prior to his or her participation with this authorization.

3. Recurrent training must be completed within each subsequent 12 calendar-months.

4. Whenever a person who is required to take this recurrent training completes the training in the calendar-month before or the calendar-month after the month in which this recurrent training is required, that person is considered to have completed it in the calendar-month in which it was required.

5. The sample Table 1 (Table 12-7, Sample of Table 1 Airports and Special Provisions) shows how to provide authorization for conducting operations after curfew hours at specific airports or use of the RBI Runway Reflectorization system at specific airports in Table 1 of OpSpec C067.

3) Foreign air carrier turbojet operations on unpaved runways. Airports with unpaved runways shall be required to have special operational procedures and flightcrew member training approved/accepted as appropriate by the State of Operator CAA. For authorization of operations at an airport with unpaved runways, the principal operations inspector (POI) must identify the airport and reference the appropriate section of the foreign air carrier's manuals in Table 1 of OpSpec C067.

4) Foreign air carrier operations to U.S. airports that do not have an available alternate in accordance with Annex 6, Part I, Paragraph 4.3.4.3 (b) that are dispatched in accordance with the required fuel reserves set forth in Annex 6, Part I, Paragraph 4.3.6.3.2 (b), shall be listed along with any special provisions or limitations, including those imposed by the foreign CAA.

5) Although the FAA does not encourage operators to list in their OpSpecs aircraft limitations at certain airports during curfew hours, if an airport authority requires operators to list these limitations in their OpSpecs, then operators may list them in Table 1 of OpSpec C067. A sample of Table 1 (Table 12-7) below shows an example of limitations for air carrier operations into specific airports during curfew hours.

Table 12-7. Sample of Table 1 Airports and Special Provisions

Airport Location/Identifier	Aircraft Make, Model, and Series (M/M/S) (enter "NA" if not applicable)	Special Provisions and Limitations and Special Flightcrew Member Training
PKEK, Ekwok, Alaska	NA	A station agent is required to give wind information to the flightcrews and the flightcrew must have completed the required approved training on the Reginald Bennett International (RBI) Runway Reflectorization System.
DCA, Ronald Reagan Washington National Airport	Boeing 737-800	Limitations during the curfew hours. Boeing 737-800—Max Takeoff—159,000 pounds Max Landing—137,600 pounds.

OPSPEC C068—NOISE ABATEMENT DEPARTURE PROFILES (NADP) (OPTIONAL).

A. The Intent of OpSpec C068. OpSpec C068 authorizes foreign air carriers to conduct Noise Abatement Departure Profile (NADP) operations in accordance with the provisions of OpSpec C068 and the procedures in the foreign air carrier's manuals that its civil aviation authority (CAA) has accepted/approved. The foreign air carrier shall use the approved NADPs for its turbojet airplanes, having a maximum certificated gross takeoff weight (GTOW)of more than 75,000 pounds, operating from a noise-sensitive airport within the United States. The foreign air carrier shall conduct each NADP in accordance with the restrictions and limitations specified in OpSpec C068 and shall not conduct any other noise abatement departure profile operations.

1) For the purpose of these OpSpecs, the NADPs for any airplane type at any one time shall be limited to a maximum of two profiles:

- Close-In NADP operations, and/or
- Distant NADP operations.

2) Only one NADP can be designated for each runway at each airport. The foreign air carrier's NADPs must meet the following criteria:

a) For each NADP, the foreign air carrier shall specify the altitude above field elevation (AFE) at which flightcrews will initiate thrust reduction from takeoff thrust (close-in profile) or airplane configuration change (distant profile), excluding gear retraction.

b) Close-In NADP. The foreign air carrier shall use the following NADP criteria for individual airplane types intended to provide noise reduction for noise-sensitive areas located in close proximity to the departure end of the runway:

1. Initiate thrust cutback at an altitude of no less than 800 feet (ft) AFE and prior to initiation of flaps or slats retraction.

2. The thrust cutback may be made by manual throttle reduction or by approved automatic means. Flightcrews may arm the automatic means before takeoff for cutback at or above 800 ft AFE or may be pilot initiated at or above 800 ft AFE.

3. For airplanes without an operational automatic thrust restoration system, achieve and maintain no less than the thrust level necessary after thrust reduction to maintain, for the flaps/slats configuration of the airplane, the takeoff path engine-inoperative climb gradients specified in 14 CFR part 25, § 25.111(c)(3) in the event of an engine failure.

4. For airplanes with an operational automatic thrust restoration system, achieve and maintain no less than the thrust level necessary after thrust reduction to maintain, for the flaps/slats configuration of the airplane, a takeoff path engine-inoperative climb gradient of zero percent, provided that the automatic thrust restoration system will, at a minimum, restore sufficient thrust to maintain the takeoff path engine-inoperative climb gradients that § 25.111(c)(3) specifies in the event of an engine failure.

5. During the thrust reduction, coordinate the pitchover rate and thrust reduction to provide a decrease in pitch consistent with allowing indicated airspeed to decay to no more than 5 knots below the all-engine target climb speed, and in no case to less than takeoff safety speed (multi) (V_2) for the airplane configuration. For automated throttle systems, acceptable speed tolerances can be found in the current edition of Advisory Circular (AC) 25-15, Approval of Flight Management Systems in Transport Category Airplanes.

6. Maintain the speed and thrust criteria as described in steps A2)b)*3* through A2)b)*5* to 3,000 ft AFE or above, or until the airplane has been fully transitioned to the en route climb configuration (whichever occurs first), then transition to normal en route climb procedures.

c) Distant NADP. The foreign air carrier shall use the following NADP criteria for individual airplane types intended to provide noise reduction for all other noise sensitive areas.

1. Initiate flaps/slats retraction prior to thrust cutback initiation. Flightcrews should initiate thrust cutback at an altitude no less than 800 ft AFE.

2. Flightcrews may make the thrust cutback by manual throttle reduction or by approved automatic means. Flightcrews may arm the automatic means prior to takeoff for cutback at or above 800 ft AFE or the flightcrew may initiate it at or above 800 ft AFE.

3. For airplanes without an operational automatic thrust restoration system, achieve and maintain no less than the thrust level necessary after thrust reduction to maintain, for the flaps/slats configuration of the airplane, the takeoff path engine-inoperative climb gradients specified in § 25.111(c)(3) in the event of an engine failure.

4. For airplanes with an operational automatic thrust restoration system, achieve and maintain no less than the thrust level necessary after thrust reduction to maintain, for the flaps/slats configuration of the airplane, a takeoff path engine-inoperative climb gradient of zero percent, provided that the automatic thrust restoration system will, at a minimum, restore

sufficient thrust to maintain the takeoff path engine-inoperative climb gradients specified in § 25.111(c)(3) in the event of an engine failure.

5. During the thrust reduction, coordinate the pitchover rate and thrust reduction to provide a decrease in pitch consistent with allowing indicated airspeed to decay to no more than five knots below the all-engine target climb speed, and in no case to less than V_2 for the airplane configuration. For automatic throttle systems, acceptable speed tolerances can be found in AC 25-15.

6. Maintain the speed and thrust criteria as described in steps A2)c)*3* through A2)c)*5* to 3,000 ft AFE or above, or until the airplane has been fully transitioned to the en route climb configuration (whichever occurs first), then transition to normal en route climb procedures.

B. Airplane Vertical Departure Profiles. Before authorizing this paragraph, the POI must ensure that all airplane vertical departure profiles described in the certificate holder's operations and/or training manuals comply with the above criteria before authorizing OpSpec C068 for the foreign air carrier.

NOTE: Configuration changes necessary to meet regulatory performance or operations requirements shall not be affected by this procedure. For those airplanes that have a performance requirement to reduce takeoff flaps to an intermediate takeoff flap setting at 400 ft AFE or above, the next flap/slats retraction should be initiated at an altitude of no less than 800 ft AFE.

OPSPEC C069-C074. RESERVED.

OPSPEC C075—CIRCLING MANEUVERS AND/OR CONTACT APPROACHES AT U.S. AIRPORTS (OPTIONAL).

A. Issuing OpSpec C075. The FAA issues OpSpec C075 to foreign air carriers with fixed-wing airplanes who conduct either circling maneuvers, contact approaches, or both (circling maneuvers and contact approaches). OpSpec C075 specifies the lowest minimums that can be used.

NOTE: Do not issue OpSpec C075 if the foreign air carrier is not authorized for either the circling maneuver or contact approach.

B. Before Issuing OpSpec C075. The foreign air carrier must submit documentation showing that their crewmember training program approved by their Civil Aviation Authority (CAA) provides the appropriate training and checking, and that the CAA authorized the maneuver and/or approach.

C. Drafting OpSpec C075. Within the OpSpec there are two sets of selectable static text for circling maneuvers and contact approaches (one for each when authorized, and one for each when not authorized). The inspector must select the appropriate text based on what the air carrier is authorized. For example, if the air carrier is authorized for circling maneuvers and not for

contact approaches, then select the text that states the limitations of circling maneuvers and the "not authorized" text for contact approaches.

D. Circling Maneuvers Terminology. In any weather condition, a foreign air carrier that permits its pilots to accept a "circle to land" or a "circle to runway (runway number)" clearance from air traffic control (ATC) conducts circle-to-land maneuvers. The term "circle-to-land maneuver" includes the maneuver that is referenced in various regulations, publications, and documents as "circle-to-land maneuver," "circling," "circling maneuver," "circle," "circling approach," and "circling approach maneuver." With regard to pilots, conducting a circle-to-land maneuver means to act as the Pilot Flying (PF) when a circle-to-land maneuver is being conducted.

E. Aircraft Operating Under Instrument Flight Rules (IFR) During All Circle-To-Land Maneuvers. Aircraft operating under IFR during all circle-to-land maneuvers are required to remain clear of clouds. If a flightcrew loses visual reference to the airport while conducting a circle-to-land maneuver, they must follow the missed approach procedure specified for the applicable instrument approach, unless ATC specifies an alternate missed approach procedure.

F. Circling Landing Maneuver. When the ceiling is less than 1,000 feet and visibility is less than 3 statute miles, then the foreign air carrier shall not use any circling landing minimum lower than that prescribed for the applicable published instrument approach to be used.

NOTE: This does not authorize the pilots to go below the lowest minimum authorized by the State of Operator.

G. Pilots Restricted to Circling in Visual Conditions. Any pilot who possesses a pilot certificate restricting circling approaches to visual meteorological conditions (VMC) is not eligible to conduct circle-to-land maneuvers except as provided below:

1) He or she must use the higher of the minimum descent altitude (MDA) of 1,000 feet height above airport (HAA) or the MDA of the published circling landing minimums for the instrument approach to be used.

2) He or she remains under an IFR clearance and must comply with the procedures otherwise required for circle-to-land maneuvers. The foreign air carrier may conduct a circle-to-land maneuver when the reported ceiling is at least 1,000 feet and the visibility is at least 3 miles, or the reported weather is at least equal to the published circling landing minimums for the instrument approach to be used, whichever is higher.

NOTE: Foreign air carriers conducting circle-to-land maneuvers without training and checking are subject to the same provisions as pilots restricted to circling in visual conditions.

H. Contact Approach Criteria. The Aeronautical Information Publication (AIP) of the United States provides further guidance on foreign operators operating contact approaches in the United States. See Part 2—En Route (ENR), ENR 1.1, paragraph 42.3 and ENR 1.5,

paragraph 23 of the AIP of the United States, located at the following Web site: http://www.faa.gov/air_traffic/publications/atpubs/AIP/aip.pdf.

OPSPEC C076. Decommissioned.

OPSPEC C077—TERMINAL FLIGHT RULES LIMITATIONS AND PROVISIONS (required for all carriers conducting IFR operations).

A. To Whom OpSpec C077 is Issued. The FAA issues OpSpec C077 to all foreign air carriers operating turbojet and large airplanes to the United States. Except as provided within OpSpec C077, it restricts all operations to those conducted to instrument flight rules (IFR) except in accordance with the provisions of 14 CFR part 93, Special Federal Aviation Regulation (SFAR) 50-2, SFAR 71, or OpSpec B051, if issued. OpSpec C077 allows the foreign air carrier to conduct the following operations in the terminal area with the restrictions and limitations listed therein:

1) Terminal arrival IFR—visual approach or a charted visual flight procedure (CVFP).

2) Terminal arrival visual flight rules (VFR).

3) Terminal departures VFR.

4) Terminal departures IFR.

B. CVFP. For a foreign air carrier conducting a CVFP, the weather minimums of 14 CFR part 91 prevail except that the carrier shall not use minimums lower than those established in the CVFP.

C. OpSpec C077 Subparagraph b(2)(b)—Uncontrolled Airports. Uncontrolled airports may be in Class G airspace. In order for the foreign air carrier to exercise this provision, OpSpecs C064 and/or C080 must also be issued allowing operation at airports without an operating control tower and/or operation in Class G airspace.

D. OpSpec C077 Subparagraph b(3). In lieu of a CVFP, a charted visual procedure that the air carrier's civil aviation authority (CAA) approved is highly recommended for all terminal VFR departures/arrivals that fall under this OpSpec. The proximity of obstacles to the departure flightpath, the seeing conditions, the accuracy of the guidance and control systems, the pilot's proficiency, and the foreign air carrier's training should determine the size of the area in which obstacle clearance or avoidance must be considered.

E. OpSpec C077 Subparagraph c(3). This subparagraph contains a requirement to obtain an IFR clearance no farther than 50 nautical miles (NM) from the departure airport. However, it is recognized that this procedure may not be practical in all situations. If a greater distance is necessary, the foreign air carrier may apply for a nonstandard paragraph. If OpSpec B051 is issued for VFR en route operations, then for propeller-driven aircraft, except for certain en route VFR provisions in part 93, SFAR 50-2, or SFAR 71, the flightcrew may

depart VFR under the provision of OpSpec C077 subparagraph c, and the requirement to obtain an IFR clearance en route does not apply.

F. Terminal Departure IFR Requirements in Subparagraph d. If air traffic control (ATC) clears the flight, it is acceptable to execute a visual meteorological conditions (VMC) takeoff and climb to a specified point in the clearance as part of an IFR clearance. However, the foreign air carrier must ensure that the obstacle performance requirements are met. Further, the flight must not depart on a VFR flight plan if the capability to go on an IFR flight plan is evident.

G. Subparagraph e. Subparagraph e provides special limitations and provisions for all VFR operations. This subparagraph is applicable to all the provisions and limitations of OpSpec C077.

1) Subparagraph e(1). In order for the foreign air carrier to conduct VFR operations under OpSpec C077, they must have in place either a procedure or program that can identify obstacles and the airport obstacle data. Further, they must ensure that the flightcrew use that information. The POI shall request documentation from the foreign air carrier that this program is in place and that the air carrier's CAA has approved VFR terminal operations.

2) OpSpec C077, Subparagraph e(2). Although each subparagraph has specific details and minimums regarding VFR, the requirement for sufficient seeing conditions to identify and avoid obstacles is required for all VFR operations.

OPSPEC C078. RESERVED.

OPSPEC C080—TERMINAL AREA IFR OPERATIONS IN CLASS G AIRSPACE AND AT AIRPORTS WITHOUT AN OPERATING CONTROL TOWER (OPTIONAL). The FAA issues OpSpec C080 to authorize a foreign air carrier to conduct terminal area airplane instrument flight rules (IFR) operations in Class G airspace or at airports without an operating control tower.

A. Before Authorizing OpSpec C080. Before authorizing OpSpec C080, the principal operations inspector (POI) must determine that the foreign air carrier's civil aviation authority (CAA) has authorized/approved it for these types of operations. The foreign air carrier must provide documentation to the POI showing that they have the required methods or procedures and arrangements in place for obtaining and disseminating necessary operational information and that their CAA has accepted/approved them. This operational information must include the following:

1) That the airport is served by an authorized instrument approach procedure (IAP) (and departure procedure, when applicable).

2) Applicable charts for crewmember use.

3) Operational weather data from an approved source for control of flight movements and crewmember use. (For a list of examples, see Volume 3, Chapter 26, Section 4. Note that the examples contained therein are not all inclusive.)

4) Status of airport services and facilities at the time of the operation.

5) Suitable means for pilots to obtain traffic advisories (TA).

6) Sources of traffic and airport advisories.

7) Scheduled passenger operations. The POI must select the optional text for scheduled operations. The optional text specifies the following additional requirement: would it not have been for weather, or mechanical or air traffic control (ATC) delays, the flight would have arrived at the scheduled time and the airspace would have been Class D.

B. Sources of Traffic and Airport Advisories. Foreign air carriers may be authorized to use any two-way radio source of air TA information listed in the Aeronautical Information Manual (AIM) (for operations in U.S. airspace) or equivalent Aeronautical Information Publications (AIP).

1) These sources include common traffic advisory frequencies (CTAF), Aeronautical Advisory Stations (UNICOM), Multicom, and Flight Service Stations (FSS).

2) In those cases where two sources are listed at the same airport, inspectors must ensure that the foreign air carrier's manuals have procedures that require pilots to continuously monitor and use the TA frequency when operating within 10 nautical miles (NM) of the airport. The procedures should require communication concerning airport services and facilities to be completed while more than 10 NM from the airport.

3) At some airports, no public use frequencies may be available. In those cases, a foreign air carrier must arrange for radio communication of essential information, including surveillance of local or transient aircraft operations by ground personnel. Ground personnel who provide airport status and TA reports using a company radio must be able to view airspace around the airport.

OPSPEC C381. RESERVED.

OPSPEC C083—IASA CATEGORY 2 SPECIAL OPERATIONAL RESTRICTIONS—SCHEDULED AND NON-SCHEDULED OPERATIONS, ADDITIONAL AIRCRAFT AND SPECIAL AUTHORIZATIONS (required for all carriers from International Aviation Safety Assessment (IASA) CAT II countries).

A. General. OpSpec C083 shall be issued to any foreign air carrier conducting operations to the United States under 14 CFR part 129, when the FAA determines under the international aviation safety assessment program (IASA) that the State of Operator does not oversee civil aviation safety in accordance with minimum international standards. Such countries are placed in IASA Category 2. Foreign air carriers with existing operations to the United States will be permitted to continue operations at current levels under heightened FAA surveillance. The FAA does not permit expansion or changes in services to the United States by such carriers while their home country is in Category 2 status. The FAA will permit new services only if operated using aircraft wet-leased from a duly authorized and properly supervised U.S. carrier or a foreign air carrier from a Category 1 country that is authorized to serve the United States using

its own aircraft under part 129. Those operations are not restricted by this OpSpec. Issuance of OpSpec C083 shall be coordinated with the International Programs and Policy Division (AFS-50). If no operations were conducted to the United States in the 6 calendar-months prior to the month in which their home country was determined to be Category 2, the responsible FSDO/IFO/IFU should begin the process of withdrawing the carrier's part 129 OpSpecs instead of issuing this paragraph. That process should only begin after consultation with AFS-50.

B. Scheduled Operations. In order to maintain operations at current levels for these carriers, each foreign airport from which the foreign air carrier provides scheduled service to the United States shall be listed in OpSpec C083 subparagraph a. The foreign air carrier must have provided scheduled service to the listed city pairs either at the time their home country was determined to be Category 2, or during the 6 calendar-months prior to the month their home country was determined to be Category 2. The foreign air carrier shall also be limited to the frequency operated to those city pairs during the 6 calendar-months prior to the CAT 2 determination. OpSpec C083 limits the foreign air carrier's scheduled operations to the United States to those city pairs and frequency. If the carrier's home country once again obtains IASA Category 1 status, this OpSpec will be withdrawn.

C. Nonscheduled Operations. When a foreign air carrier's home country is determined to be in IASA Category 2, the FAA restricts the foreign air carrier's nonscheduled operations to the geographic areas to which operations were conducted and frequency of operation during the 6 calendar-months prior to the Category 2 determination. Each U.S. geographic area to which the foreign air carrier provides nonscheduled service to the United States and the frequency of that nonscheduled service over the preceding 6 months shall be listed in the table in subparagraph b. If the carrier's home country once again obtains IASA Category 1 status, this OpSpec will be withdrawn. The applicable geographic areas are only those that also are listed in OpSpec A001. To list the areas of geographic authorization, accomplish the following:

1) First, obtain the "list of areas of en route operation." The Web-based Operations Safety System (WebOPSS) guidance subsystem contains detailed information on geographical areas. The areas authorized for issuance to a foreign air carrier in 129 OpSpecs are:

- USA—The 48 Contiguous United States and the District of Columbia,
- USA—The State of Alaska,
- USA—The State of Alaska; the Following Islands [insert],
- USA—The State of Hawaii,
- USA—The State of Hawaii; the Following Islands [insert],
- USA—The States of [insert], and
- USA—The Territory of [insert].

2) Then select the individual areas of en route operations to be authorized.

a) Certain selections have blank spaces, which when selected must be completed. These selections should normally be used only when the operation is to be limited to certain states, or islands within a larger geographic area. For example, a foreign air carrier may have its nonscheduled operations limited to Hawaii and other specific island(s) and territories within the region of the South Pacific Ocean, such as Guam and Samoa, if that carrier provided

nonscheduled service to the area during the prior 6 months. While these types of selections provide two or three blank spaces, as many states or islands as appropriate can be entered.

b) If the standard phraseology for a particular selection is not appropriate, the principal operations inspector (POI) may develop an appropriate description of the area to be authorized. In these cases, the POI) can delete the standard phraseology and insert the nonstandard description of the geographic area.

Figure 12-3. Example Listing of Restrictions for a Foreign Air Carrier

A. Scheduled Operations. The foreign air carrier shall only conduct scheduled operations to and from the United States between the specific city pairs listed in this paragraph.

UNITED STATES CITY	FOREIGN COUNTRY CITY	FREQUENCY
PANC Anchorage, Alaska	XXXX anywhere city	Twice per week

B. Nonscheduled Operations. The foreign air carrier's nonscheduled operations to and from the United States is restricted to the U.S. geographic area and frequency listed in this paragraph.

UNITED STATES GEOGRAPHIC AREA	FREQUENCY
USA—The 48 Contiguous United States and the District of Columbia	6 flights per year

D. Additional Aircraft. On or after the date their home country was determined to be CAT 2, no additional aircraft (including substitution of aircraft) may be added to the carrier's OpSpecs, except through the issuance of OpSpec A028 allowing aircraft wet-leased from a duly authorized and properly supervised U.S. carrier or foreign air carrier from a CAT 1 country that is authorized to serve the United States using its own aircraft.

E. Special Authorizations. On or after the date their home country was determined to be CAT 2, no additional special authorizations such as Category (CAT) II/III, instrument landing system (ILS)/precision runway monitor (PRM), land-and-hold-short operations (LAHSO), Reduced Vertical Separation Minimum (RVSM), etc., that require approval, acceptance or authorization by the foreign air carrier's Civil Aviation Authority (CAA), shall be authorized in these OpSpecs, unless such authorizations are necessary in the interest of safety, and shall be issued only with the concurrence, in writing, of AFS-50. Any existing special authorizations such as CAT II/III, ILS/PRM, LAHSO, RVSM, etc., that require an initial approval, acceptance, or authorization and continuing oversight by the foreign air carrier's CAA, shall be reviewed to determine that adequate oversight by the foreign air carrier's CAA is occurring on a continuous basis. If it is determined that such adequate oversight by the foreign air carrier's CAA is not occurring on a continuous basis, the responsible FSDO/IFO/IFU should consider withdrawing

those special authorizations from the foreign air carrier's OpSpecs. That withdrawal process should be initiated only after consultation with and clearance by AFS-50.

NOTE: Additional information on the FAA's IASA program, including a country's IASA category, can be obtained on the FAA Web site at http://www.faa.gov/about/initiatives/iasa/.

OPSPEC OPSPEC C084-C090. RESERVED.

OPSPEC C381—SPECIAL NON-14 CFR PART 97 INSTRUMENT APPROACH OR DEPARTURE PROCEDURES (OPTIONAL).

NOTE: To obtain the nonstandard authorization C381, the operator is required to use the nonstandard request process. See Volume 3, Chapter 18, Section 2, paragraphs 3-712 to 3-713, for the nonstandard request process. For foreign air carriers conducting operations under 14 CFR part 129, submit the formal request to the Flight Technologies and Procedures Division (AFS-400).

A. Applicability. OpSpec C381 is applicable to all foreign air carriers conducting airplane operations under part 129. OpSpec C381 authorizes foreign air carriers to conduct special (non-14 CFR part 97) instrument approach procedures (IAP) or departure procedures (DPs). OpSpec C381 is an optional authorization for foreign air carriers conducting operations under part 129.

B. Authorization. The foreign air carrier's training program must provide training in the equipment and special procedures to be used, and the foreign air carrier's civil aviation authority (CAA) must approve the use of these special procedures. The carrier must be from an international aviation safety assessment program (IASA) Category 1 State. OpSpec C381 can be issued once the inspector determines that the foreign air carrier is able to obtain the operational status of the non-part 97 instrument approach or departure operations.

1) All airports and all special IAPs and DPs must be listed in Table 1 of OpSpec C381. The full name of the procedure (e.g., "ILS or LOC/DME RWY 23, Amdt 2") must be included in the table. Include any limitations or provisions relevant to a specific procedure in the third column of Table 1.

2) When submitting the formal request to AFS-400 in accordance with the nonstandard request process, include the draft OpSpec and the approval documentation from the foreign air carrier's CAA. AFS-400 will review the technical content, and forward the request to AFS-50 for approval.

Special Terminal IAPs or DPs. For more information on special instrument procedures, see Volume 4, Chapter 2, Section 10, or contact your regional AXX-220 branch for more information.

OPSPEC C384—AREA NAVIGATION (RNAV) REQUIRED NAVIGATION PERFORMANCE (RNP) INSTRUMENT APPROACH PROCEDURES WITH SPECIAL AIRCRAFT AND AIRCREW AUTHORIZATION REQUIRED (AR).

A. General. OpSpec C384 is used to authorize foreign air carriers to conduct Area Navigation (RNAV) Required Navigation Performance (RNP) instrument approach procedures (IAP), which require special aircraft and aircrew authorization required (SAAAR). These approaches have been published in accordance with 14 CFR part 97 and are charted as "RNAV (RNP) RWY XX," hereinafter referred to as RNP SAAAR IAP.

B. Alternative Method. The current edition of FAA advisory circular (AC) 90-101, Approval Guidance for RNP Procedures with Special Aircraft and Aircrew Authorization Required (SAAAR), provides an acceptable method of compliance with public RNP SAAAR IAP requirements. In lieu of following this method without deviation, foreign air carriers may elect to follow an alternative method, provided the alternative method is also found to be acceptable to the FAA.

C. RNP Approaches. RNP approaches provide an opportunity to improve safety, efficiency, and capacity. Safety is improved when RNP approaches replace visual or Nonprecision Approaches (NPA), and efficiency is improved through more repeatable and optimum flightpaths. Capacity can be improved by de-conflicting traffic during instrument conditions.

1) RNP SAAAR approaches provide an unprecedented flexibility in construction of approach procedures. These operations are RNAV procedures with a specified level of performance and capability. RNP SAAAR approach procedures build upon the performance-based National Airspace System (NAS) concept. The performance requirements to conduct an approach are defined, and aircraft are qualified against these performance requirements. Obstacle evaluation areas for approaches using conventional navigation aids are based on a predefined aircraft capability and navigation system. RNP SAAAR criteria for obstacle evaluation are flexible and designed to adapt to unique operational environments. This allows approach-specific performance requirements as necessary for that approach procedure. The operational requirement can include avoiding terrain or obstacles, deconflicting airspace, or resolving environmental constraints.

2) RNP approaches include unique capabilities that require special aircraft and aircrew authorization similar to Category (CAT) II/III instrument landing system (ILS) operations. All RNP SAAAR approaches have reduced lateral obstacle evaluation areas and vertical obstacle clearance surfaces predicated on the aircraft and aircrew performance requirements of AC 90-101. In addition, there are two characteristics used for selected procedures, as necessary. Foreign air carriers can be authorized for any subset of these characteristics:

- Aircraft ability to fly a published arc (also referred to as a radius to a fix (RF) leg); and
- Reduced lateral obstacle evaluation area on the missed approach (also referred to as a missed approach requiring RNP less than 1.0).

3) When conducting an RNP SAAAR approach using a line of minima less than RNP 0.3 and/or a missed approach that requires RNP less than 1.0, you must comply with AC 90-101, appendix 2, paragraph 5 and/or 6.

4) The defining components of RNP capability is the ability of the aircraft navigation system to monitor its achieved navigation performance and to identify, display, and alert the pilot when the operational requirement is not being met during an operation.

D. Authorization.

1) Overview. Any foreign air carrier with an appropriate operational authorization (e.g., OpSpecs) may conduct specified RNP SAAAR IAPs, with a process similar to when foreign air carriers with the proper authorization may conduct CAT II and CAT III ILS operations. Subparagraph D3)b) (Figure 12-4, RNP SAAAR Authorization Checklist—(Refer to AC-90-101 for Current Version)) contains a checklist and a list of the documents foreign air carriers must submit to their assigned principal inspectors (PI) when seeking FAA authorization for these operations. Foreign air carriers should comply with the requirements in AC 90-101, appendices 2 through 6. Before application, foreign air carriers and manufacturers should review all performance requirements. Installation of equipment by itself does not guarantee final approval for use.

2) Aircraft Qualification and Initial Acceptance of Recommended Operational Documentation.

a) Aircraft Qualification Documentation. Aircraft manufacturers should develop aircraft qualification documentation showing compliance with AC 90-101, appendix 2. This documentation identifies the optional capabilities (e.g., RF legs and RNP missed approaches), the RNP capability of each aircraft configuration, and the characteristics that may alleviate the need for operational mitigations. This documentation should also define the recommended RNP maintenance procedures.

b) RNP SAAAR Operational Documentation. The FAA recommends that the aircraft manufacturer develop RNP SAAAR operational documentation. The operational documentation consists of a recommended navigation data validation program (Refer to AC 90-101, appendix 3) and operational considerations (Refer to AC 90-101, appendix 4), training programs (Refer to AC 90-101, appendix 5), and RNP monitoring programs (Refer to AC 90-101, appendix 6).

c) FAA Acceptance.

1. For new aircraft, the aircraft qualification documentation can be approved as part of an aircraft certification project and reflected in the Approved Flight Manual (AFM) and related documents. The RNP SAAAR operational documentation can be accepted by the Aircraft Evaluation Group (AEG) in coordination with the Flight Technologies and Procedures Division (AFS-400).

2. For existing aircraft, the aircraft manufacturer should submit the aircraft qualification and RNP SAAAR operational documentation to AFS-400. AFS-400 will coordinate with other FAA offices and may accept the package as appropriate for RNP SAAAR operations. Acceptance will be documented in a letter to the aircraft manufacturer.

3) Operator Authorization.

a) Procedures. Foreign air carriers must present a package of documentary evidence to their PIs at their responsible Flight Standards District Office (FSDO)/International Field Office (IFO)/International Field Unit (IFU) showing compliance with the requirements below, in accordance with AC 90-101, appendices 2 through 6, which is specific to the aircraft, equipment, and their procedures. Once the principal operations inspector (POI) has made a determination in cooperation with the principal avionics inspector (PAI) and principal maintenance inspector (PMI) that the package is satisfactory and complete, the package shall be forwarded to AFS-400 for review and concurrence. Once AFS-400 concurrence has been obtained that the operator has satisfied the requirements contained in AC 90-101, or equivalent, the POI issues OpSpec C384, authorizing RNP SAAAR IAPs. An RNP SAAAR authorization checklist has been provided on the following pages for use.

b) RNP SAAAR Application Package Contents. The operator submits documentation of its proposed operation to its responsible FSDO/IFO/IFU. The package should include, as a minimum, the following:

1. Aircraft qualification documentation. Documentation from the aircraft manufacturer showing that the proposed aircraft equipment meets the requirements as outlined in AC 90-101, appendix 2. This documentation should contain any specific hardware or software equipment requirements, procedural requirements, and limitations.

2. Type of aircraft and description of aircraft equipment to be used. Provide a configuration list that details pertinent components and equipment to be used for the operation. The list should include each make, model, and version of flight management system (FMS) software installed.

3. Operating procedures and practices. Company manuals and checklists must adequately address the special characteristics of a proposed area of operation and the operational (navigation) practices and procedures identified in AC 90-101, appendix 4. These procedures shall be included as part of the manual required by International Civil Aviation Organization (ICAO) Annex 6, Part I, paragraph 4.2.3, which is approved/accepted by the State of Operator Civil Aviation Authority (CAA).

4. Navigation data validation program. The foreign air carrier must provide the specifics of the navigation data validation program as described in AC 90-101, appendix 3. The program will be included in the manual required by ICAO Annex 6, Part I, paragraph 4.2 that is approved/accepted by the State of Operator CAA.

5. Flightcrew and flight operations officer/flight dispatcher training programs. Foreign air carriers must submit training syllabi and other appropriate material to show that RNP SAAAR operations are incorporated into their programs. Training programs must adequately address the special characteristics of a proposed area of operation and the operational (navigation) practices and procedures identified in AC 90-101, appendix 5. The training and qualification program must be approved by the State of Operator CAA.

6. Maintenance program. The operator should submit maintenance program procedures that include instructions for airworthiness/maintenance of the equipment/systems to

be used in the operation and required training for maintenance personnel. The foreign air carrier must provide a procedure for removing the aircraft from and returning the aircraft to RNP SAAAR operational capability. The program must be approved by the State of Operator CAA. Additionally, for each U.S.-registered aircraft, the FAA must approve the maintenance program in accordance with part 14 CFR part 129, § 129.14.

7. RNP SAAAR approach monitoring program. The foreign air carrier must submit a program that collects data on RNP SAAAR procedures conducted. Each operation should be recorded; unsuccessful attempts should include the factors that prevented successful completion of the operation.

8. Minimum equipment list (MEL). The operator must revise its MEL as necessary for the conduct of the operation in accordance with AC 90-101, appendix 4, paragraph 2a and submit the foreign CAA-approved revision. Additionally, for U.S.-registered aircraft, the foreign air carrier must submit the MEL revision for approval to the FAA in accordance with § 129.14.

9. Validation. The foreign air carrier must submit documentary evidence that the State of Operator CAA has approved/accepted its U.S. RNP SAAAR IAP operations in accordance with the criteria in AC 90-101 without deviation, including validation testing. If the foreign air carrier's RNP SAAAR IAP operations have been approved/accepted using other criteria, the criteria used must be submitted to the FAA POI. When the foreign air carriers use an alternative method other than strict compliance with the requirements of AC 90-101, the foreign air carrier's package will be forwarded to AFS-400 for review and concurrence before authorization is granted. Validation testing should include:

- Demonstration of the aircraft capability to perform RNP procedures with AR,
- The carrier's operational and dispatch procedures,
- The effectiveness of the carrier's training,
- The effectiveness of the equipment maintenance procedures, and
- MEL procedures

NOTE: Validation testing should take advantage of ground training devices (GTD), simulators, and aircraft demonstrations. If the demonstration will be conducted in an aircraft, it must be completed in day visual meteorological conditions (VMC).

NOTE: Demonstration may be required in each make, model, and version of FMS software installed.

Figure 12-4. RNP SAAAR Authorization Checklist—(Refer to AC 90-101 for Current Version)

RNP SAAAR Authorization CHECKLIST

Date Application Submitted: _____

Aircraft Qualification	☐
Navigation Data Validation Program	☐
Established Maintenance Procedures	☐
Training (e.g., flightcrew/dispatch)	☐
Minimum equipment list (MEL) Revision (as required)	☐
Operational Procedures Requirements	☐
Required Navigation Performance (RNP) monitoring program	☐
Conditions or Limitations for approval	☐
Dispatch/flight following procedures	☐
Validation successfully completed (as required)	☐

POI ACTION:

AFS-400 Concurrence	☐
Interim RNP special aircraft and aircrew authorization required (SAAAR) Approval (issue 14 CFR part 129 OpSpecs)	☐
Final RNP SAAAR Approval (issue part 129 OpSpecs)	☐
RNP SAAAR Disapproval	☐

Reason for Disapproval:

_____

Date: _____
POI Signature: _____

c) Interim Authorization. For the first 90 days and at least 100 SAAAR approaches in each aircraft type, the foreign air carrier will be authorized to conduct RNP approaches with SAAAR using minima associated with RNP 0.3. For approach procedures with no line of minima associated with RNP 0.3, the procedure must be flown in VMC. The interim authorization will be removed after completion of the applicable time period and number of approaches and upon FAA review of the reports from the RNP SAAAR monitoring program.

NOTE: RNP SAAAR foreign air carrier with experience of equivalent RNP approaches may receive credit toward the interim authorization requirements.

NOTE: Experienced RNP SAAAR foreign air carriers operating new or upgraded aircraft types/systems, derivative types, or different aircraft types with

identical crew interface and procedures, may use reduced interim authorization periods (e.g., fewer than 90 days and 100 approaches) as determined by the POI with written concurrence from AFS-400.

NOTE: In unique situations where the completion of 100 successful approaches could take an unreasonably long period of time due to factors such as a small number of aircraft in the fleet, limited opportunity to use runways having appropriate procedures, and where or when equivalent reliability can be achieved, a reduction in the required number of approaches may be considered on a case-by-case basis by the POI with written concurrence from AFS-400.

d) Final Authorization. The responsible FSDO/IFO/IFU will issue OpSpec C384, authorizing use of lowest applicable minima after the foreign air carrier satisfactorily complete their initial 90-day/100-RNP SAAAR approach demonstration period.

e) Aircraft Modification. If any aircraft system required for RNP SAAAR is modified (e.g., software or hardware change), the aircraft modification must be evaluated. The foreign air carrier must obtain a new FAA authorization, supported by the manufacturer's updated aircraft qualification and operational documentation.

E. Inspector Action to Complete OpSpec C384.

1) OpSpec C384 identifies each make, model, and series (M/M/S) of aircraft, equipment, limitations, and lowest authorized RNP the foreign air carrier is authorized to use when conducting RNP SAAAR IAP operations within the United States.

2) All aircraft information must be first entered into the Web-based automated Operations Safety System (WebOPSS) in the left navigation area, under CHDO > Maintain Operator Data > Aircraft.

a) From the dropdown in Table 1 of the OpSpec, under the column "Aircraft M/M/S" select an aircraft M/M/S. Use the "+" symbol to add additional rows. Repeat for each authorized aircraft.

b) Enter navigation system make/model and software version. The specific make and model of navigation equipment including the current software version installed on each associate aircraft M/M/S must be entered in the column labeled "Enter Navigation System M/M/S and Software Version" of Table 1.

c) Enter limitations in the column labeled "Limitations." If there are no limitations, then select "None" from the dropdown; do not leave blank. Enter all applicable limitations as follows:

"Not authorized to use temperature compensation system. Enter this limitation unless the aircraft has temperature compensation in accordance with AC 90-101, appendix 2, paragraph 3a(7), and the foreign air carrier provides pilot training on the use of the temperature compensation function.

"Not authorized procedures requiring radius to fix RF. Enter this limitation if the aircraft/navigation system does not have RF leg capability.

"Not authorized procedures with missed approaches requiring RNP less than 1.0. Enter this limitation when the aircraft/navigation system does not meet AC 90-101, appendix 2 criteria—Approaches with a Missed Approach less than RNP 1.0."

d) Enter autopilot or flight director (FD) requirement. RNP SAAAR procedures with RNP values less than RNP 0.3 or with RF legs require the use of autopilot or FD driven by the RNAV system in all cases. Select in Table 1, in the column labeled "Autopilot Coupled or Flight Director Required," one of the following in accordance with the aircraft/navigation system qualification:

"Autopilot coupled with Flight Director"

or

"Flight Director Only"

e) Enter Lowest Authorized RNP Value in Table 1 of the OpSpec, in the column labeled "Lowest RNP." These values will vary depending on the M/M/S and navigation system combination.

NOTE: Many aircraft will have different RNP values associated with "Autopilot coupled with Flight Director" or "Flight Director Only" operations.

F. Interim Authorization. For interim authorization during the first 90 days and at least 100 SAAAR approaches in each aircraft type, in accordance with subparagraph D3)c). On the select data screen, text tab, the POI should select "load subparagraph g. For interim authorization text" and click on "load data," then draft the paragraph.

RESERVED. Paragraphs 12-215 through 12-268.

VOLUME 14 COMPLIANCE AND ENFORCEMENT

CHAPTER 2 COMPLIANCE AND ENFORCEMENT SPECIAL CONSIDERATIONS

Section 1 Compliance and Enforcement Special Considerations

14-150 APPLICABILITY. Flight Standards Service (AFS) inspectors are authorized to use the Streamlined No Action and Administrative Action Program (SNAAP) for violations of Title 14 of the Code of Federal Regulations (14 CFR) parts 21, 25, 39, 43, 45, 47, 61, 65, 73, 91, 93, 99, 101, 103, 105, 119, 121, 125, 129, 133, 134, 135, 137, 141, 142, 145, 183, and 205.

14-151 GENERAL. The current edition of Federal Aviation Administration (FAA) Order 2150.3, FAA Compliance and Enforcement Program, Chapter 5, contains the responsibilities of the FAA program offices. Chapter 5, paragraph 4, provides specific guidance concerning the use of administrative action, and subparagraph 4e, authorizes the use of the SNAAP for violations of 14 CFR investigated by AFS.

14-152 VOLUNTARY DISCLOSURE REPORTING PROGRAM (VDRP). SNAAP is not authorized for administrative action or letter of no action related to a violation processed for a certificate holder, a qualified fractional ownership program or a Production Approval Holder (PAH) under the VDRP. For more information, refer to the current edition of Advisory Circular (AC) 00-58, Voluntary Disclosure Reporting Program.

14-153 DEVIATIONS RESULTING FROM EMERGENCIES. Part 135, § 135.19(c) and part 121, §§ 121.557(c) and 121.559(c) require that a notification be sent to the FAA Administrator concerning any deviation an operator has made from 14 CFR as a result of an emergency. Each report of an emergency deviation from 14 CFR that involves an air carrier will be investigated to determine if corrective action is necessary. A shared responsibility exists between AFS and operators. Operators and crewmembers will not be permitted to use the emergency provisions of 14 CFR as an excuse for failing to comply with a regulation. On the other hand, inspectors must be cautious and ensure that an atmosphere does not develop in which a crewmember would hesitate to declare an emergency for fear of being unfairly criticized after the aircraft is safely on the ground. The investigation should include a determination as to whether the operator and crew were in compliance with such items as operations specifications (OpSpecs), company procedures, and checklists. If a determination is made that the operator and crew performed properly, an enforcement action should not be initiated as a result of the deviation. If the emergency was caused by the operator's or airman's incompetence or disregard for a specific 14 CFR part, the inspector should follow the guidance provided in Order 2150.3.

14-154 VIOLATIONS THAT INVOLVE MULTIPLE CREWMEMBERS. If crewmembers are charged as a result of violations involving operations of aircraft requiring multiple crewmembers, inspectors should ensure that the proper crewmember is charged. The operator's manuals should be reviewed to determine the specific duties and responsibilities of individual crewmembers. If the operator's manuals are ambiguous, the inspector should ensure that the operator's manuals are changed. By referring to the wording of a 14 CFR part, the investigating inspector may be able to identify a particular crewmember as being culpable. The

inspector will open separate investigation files for each crewmember suspected of being in violation of 14 CFR.

14-155 SYSTEM-WIDE VIOLATIONS. System-wide violations involve multiple occurrences of the same violation by one or more operators. Inspectors should be aware that if multiple violations of the same regulation are occurring, either by the same operator or by more than one operator, a misunderstanding of the regulation may be the cause rather than a deficiency in the operator's system. If an inspector's investigation reveals that noncompliance involves more than one operator and that it is due to a misunderstanding of 14 CFR, the inspector should provide the operators with the correct interpretation of the rule. After providing the correct interpretation of the rule, the inspector should advise the operators in writing that any continued noncompliance may result in enforcement action. Inspectors may identify a violation as being system-wide if the violation is characterized as having either of the following:

- Repetitive acts of noncompliance by the operator; and
- A single act, error, or omission which, in the inspector's opinion, may indicate widespread noncompliance with 14 CFR or operator procedures. (Such occurrences may be brought to the inspector's attention during the initial investigation.)

14-156 COMPLIANCE WITH SMOKING REGULATIONS FOR IN-FLIGHT OPERATIONS. Principal operations inspectors (POI) will ensure that U.S. and foreign air carriers to which they are assigned are aware of the public laws and the 14 CFR part banning smoking, and that their U.S. air carriers have taken appropriate actions to include procedures in their manuals and training curriculums for instructing all crewmembers regarding these requirements. The FAA position regarding enforcement of the smoking prohibitions contained in §§ 121.317, 129.29, and 135.127 is to treat a reported violation as the FAA would any other safety rule, while at the same time exercising good judgment in determining the appropriate actions to be taken. The actions to be taken will differ according to the type of passenger noncompliance. Passenger noncompliance can be through ignorance of the rule, or unthinking reaction to the urge to smoke, or it can be willful noncompliance. For example, if a passenger lights a cigarette as a reflex action and, when told that smoking is not allowed, puts it out and does not light another one, no further action is necessary. On the other hand, if a passenger lights a cigarette and will not extinguish it when asked to do so, further action is necessary.

A. Guidance. POIs should ensure that operators have procedures in place for instructing crewmembers concerning the following:

1) Procedures for Handling of Passengers in Noncompliance with Smoking Prohibitions. Operators should instruct Flight Attendants (F/A) on the following:

- How to use nonthreatening methods to approach passengers who are not complying with the smoking rule;
- How to avoid actions that could result in abusive passenger behavior; and
- How to avoid the involvement of other passengers to help obtain compliance from the smoker, as this could cause passengers to interact in a negative way with each other.

2) Procedures for Handling of Noncompliant Passengers Who Refuse to Identify Themselves. POIs should ensure that their operators have procedures to notify the flightcrew if a passenger is suspected of smoking in the lavatory, tampering with the lavatory smoke detector, or if a passenger refuses to extinguish a cigarette. The procedures should provide for identification (preferably one with a picture). The procedures should also address instances of a passenger refusing to provide any identification. Crewmembers should obtain as much information as possible regarding that passenger, such as a physical description, seat number, boarding location, and names and addresses of any traveling companions. Operators must obtain the names and addresses of other passengers who are seated in the vicinity of the smoker, as these passengers may have to be contacted as witnesses later. Then, the pilot in command (PIC) should notify the operator that there is a noncompliant passenger on board who refuses to identify himself or herself, and request that the operator have Law Enforcement Officers (LEO) meet the flight at the gate. The LEOs should be informed by the operator's personnel that they believe that a person may have violated a Federal law and 14 CFR. Regardless of the actions the LEOs may take, it is important that the FAA be given enough information (evidence), including the proper identification of the alleged offender, to initiate an Enforcement Investigation Report (EIR). If the LEOs obtain the identity of the smoker or person who tampers with a lavatory smoke detector, this information should be provided to the F/A in charge of the cabin, the PIC, or the station manager, as applicable. This person will then be responsible for ensuring that the information regarding the smoker's identification is included with the operator's report to the FAA describing the incident.

3) Procedures for Handling of Physically Abusive, Noncompliant Passengers. Carriers should have procedures to address the following situations: if a passenger becomes physically abusive either toward another passenger or crewmember; if a passenger has to be physically restrained; or if a flight crewmember must leave the flight deck to help restore order in the cabin; then the appropriate information should be obtained and the PIC should notify the operator and have the operator request that the appropriate LEO meet the flight at the gate.

4) Reporting Noncompliance. All cases of noncompliance with the smoking regulations should be reported in a timely manner by the operator to the FAA in accordance with the procedures contained in the operator's manual (as required by §§ 121.133 and 135.21, as applicable). The exception to this is the case where the person smoking immediately extinguishes the cigarette when asked to do so. The PIC and/or the F/A in charge of the cabin should fill out a report which, if feasible, both of them should sign. This report should be sent to the operator's personnel designated in the operator's and crewmembers' manuals. Some operators have indicated that they will develop a form that will list the information that should be given and include the address to which the form should be mailed. POIs should encourage operators to adopt this procedure. The report should include the following:

- The name and address of the smoker (if this information has been obtained);
- A physical description of the smoker;
- The seat number in which the smoker was seated;
- The location of the smoker's boarding and destination;
- Names, addresses, and phone numbers of witnesses;
- Names, addresses, and domiciles of the other crewmembers;

- A statement and confirmation of whether or not the passenger briefing required by § 121.571(a)(1)(i) was given, and whether or not the smoker was on board the aircraft when the briefing was given;
- A statement and confirmation of whether or not the "no smoking" signs were illuminated or "no smoking" placards were posted;
- A brief, objective, narrative of the incident;
- The airline, flight number, and date; and
- Police report number if police were summoned.

B. Summary. POIs should inform their operators of the following types of recommended practices for crewmembers handling smoker noncompliance with smoking prohibitions on nonsmoking flights:

1) Incidents That Require No Action. No action is required if a person lights a cigarette or other smoking material and, when advised that this is against the law and 14 CFR, immediately extinguishes it and does not light another cigarette.

2) Incidents That Require Obtaining Information. Crewmembers should be instructed to obtain the report information (see subparagraph 14-156A4)) when one of the following situations occurs:

- A smoker refuses to immediately extinguish smoking materials;
- A smoker or lavatory smoke detector tamperer becomes abusive;
- The crew has evidence that a person has smoked in the lavatory; and
- The crew has evidence that a person has tampered with the lavatory smoke detector.

3) Incidents That May Require Involvement of LEOs. Crewmembers should request that police meet the flight at the gate when the flight arrives and obtain information when the following occurs:

- A smoker refuses to produce identification;
- A person who is suspected of tampering with a lavatory smoke detector refuses to produce identification;
- A person suspected of smoking in a lavatory refuses to produce identification; and
- A smoker or lavatory smoke detector tamperer becomes abusive toward crewmembers or other passengers.

C. Procedures. Air carriers and passengers must comply with the regulations discussed in this paragraph, as well as with all other appropriate FAA safety regulations. Noncompliance with FAA safety regulations by either a passenger or an air carrier should result in an enforcement action being taken in accordance with Order 2150.3. With respect to passenger noncompliance with smoking prohibitions, the following information regarding enforcement action should be noted:

1) Interference with a Crewmember. Passenger noncompliance with FAA safety regulations may result in interference with a crewmember, which is a violation of part 91, § 91.11 and may also be a criminal violation under Title 49 of the United States Code (49 U.S.C.) § 46504. Operators should have procedures in their manuals to ensure that crewmembers know what actions to take if a passenger interferes with a crewmember and/or does not comply with the smoking regulations. If the passenger interferes with a crewmember, the operator should involve local LEOs. If passenger noncompliance does not result in crewmember interference, but the operator files a complaint with the FAA, the operator must provide enough information (evidence) to the FAA to ensure that an EIR can be initiated.

2) Providing Evidence. Operators or other complainants must provide ample evidence, and FAA inspectors must ensure that ample evidence exists, to make the following determinations: whether a violation of 14 CFR has occurred; whether there is enough information to locate the passenger (his or her name and address); and whether statements from crewmembers and company officials will be required to corroborate the complaint. If an operator cannot provide the foregoing information, then no further action should be taken.

3) Complaints. Complaints from other passengers should also contain enough information (including that previously described) so that it can be used to initiate an investigation.

4) Circumstantial Evidence. Recently, some concerns have been expressed about enforcement actions being taken against passengers for noncompliance with the smoking regulations when the information provided by the operator and/or crewmember contains evidence that is only circumstantial in nature. Circumstantial evidence (as opposed to direct evidence) is indirect evidence. For example, if a crewmember does not observe a passenger smoking in a lavatory, but does observe that passenger leaving a lavatory with a package of cigarettes in his/her possession, does smell cigarette smoke while the person is in the lavatory or immediately after the person leaves the lavatory, and also observes ashes in the lavatory (although the crewmember may not have directly observed the passenger smoking in the lavatory), there is enough indirect (circumstantial) evidence to prove that the passenger was smoking. One legal encyclopedia (Guide to American Law, published by West Publishing Company) describes circumstantial evidence as the following:

- Information and testimony presented by a party in a civil or criminal action that permit the making of deductions that indirectly establish the existence or nonexistence of the fact or event that the party seeks to prove; and
- A party or witness who provides circumstantial evidence does not have actual personal knowledge of, and did not directly observe, the fact in issue, but because of the facts he/she knows or observed, he/she and any other reasonable person can logically deduce the existence of fact or event.

NOTE: Order 2150.3 does not, at the present time, explicitly discuss the use of circumstantial evidence in enforcement actions. The FAA Headquarters (HQ) legal staff, however, has advised that circumstantial evidence may be used in many instances, including enforcement actions involving noncompliance with the

smoking regulations, if an operator, crewmember, or passenger provides to the FAA the information.

14-157 POI NOTIFICATION AND ACTION. When an inspector initiates a violation investigation, the inspector should immediately notify the POI of the impending action. This will allow the POI to determine the extent of the problem and to ensure that the operator takes corrective action. Additional coordination between the inspector and the POI may be necessary to determine who handles the enforcement action, in accordance with the guidance in Order 2150.3.

14-158 SNAAP.

A. Purpose. The objective of the SNAAP is to address alleged violations that do not require extensive investigations or warrant legal enforcement action.

B. Background.

1) In August 1999, the Administrator implemented a streamlined administrative enforcement action process that reduced paperwork and shortened processing for certain violations. The process provides inspectors with a more efficient way to resolve straightforward violations that do not warrant legal enforcement action. Notice 8000.286, Streamlined No Action and Administrative Action Process, published June 14, 2004, expanded the use of the streamlined automated process to include no action letters as well as administrative action letters.

2) This inspector guidance authorizes the continued use of the SNAAP, including, when appropriate, its use for the Aviation Safety Action Program (ASAP), as well as for issuance of administrative action letters resulting from application of the Enforcement Decision Process (EDP) in accordance with Volume 14, Chapter 1, Section 8. Order 2150.3 requires no action enforcement cases to be closed using the SNAAP. The SNAAP process saves FAA resources by streamlining the internal processing of both administrative and no action enforcement reports through the use of a job aid and SNAAP enhanced automation. This guidance supplements, but does not replace, the current guidance for completing an EIR as specified in Order 2150.3, Chapter 8, Enforcement Investigative Report.

C. Inspector Guidance.

1) Inspectors may use the process outlined in this guidance to address alleged violations that do not require extensive investigation or warrant legal enforcement action. This process is also used for the processing of “no action” enforcement reports. The job aid (see Figure 14-3) and automated issuance of a warning notice, letter of correction, or no action letter provide an expeditious means of processing enforcement reports that are closed with administrative or no action letters. The automated process does not replace the more formal process for administrative action described in Order 2150.3. The SNAAP and the associated job aid will not be used for remedial training (RT), voluntary disclosures, or cases where further corrective action should be taken. Since SNAAP does not include provisions for entering a summary of facts or other narrative text, it should not be used when an inspector determines that inclusion of summary of facts or other narrative text in an administrative action letter is appropriate. Similarly, it should not be used for ASAP administrative action letters when, based

on the consensus of the ASAP event review committee (ERC), inclusion of a summary of facts or other narrative text in the letter is determined to be appropriate. The SNAAP is required for letters of no action and should replace the manual preparation of such letters.

2) The SNAAP job aid should be used when the alleged violation does not require extensive investigation. For example, when inspectors personally observe an alleged violation, or when evidence is readily available, the inspector should document the facts and circumstances of the alleged violation on the job aid. In these instances, inspectors must speak with alleged violators about the noncompliance, advising them why their act or omission resulted in a regulatory violation and that enforcement action will be taken. The completed job aid is an internal document used to facilitate the entry of data into the Enforcement Information System (EIS) and is never provided to the alleged violator. The issuance of a Letter of Investigation (LOI) does not preclude the use of this process.

3) Before the information concerning the alleged violation is entered into the EIS, inspectors must determine that administrative action or no action is appropriate using the Electronic Enforcement Decision Process (E-EDP) Worksheet. This includes reviewing appropriate databases to ascertain the compliance history of the alleged violator. An EIR number must be entered on the job aid.

4) In accordance with the guidance in Order 2150.3, alleged violations must be substantiated. Items of proof, however, do not need to be gathered unless unusual circumstances are present. The EIR package for these cases will consist of a completed job aid in addition to the documentation required by Volume 14, Chapter 1, Section 8, paragraph 14-143 (except for administrative action accomplished in conjunction with the ASAP, in which case only the job aid record is retained).

NOTE: A listing of regulations for which possible violations may be appropriately addressed under the SNAAP, as well as regulatory citations that would not be appropriate, can be found at: http://av-info.avs.faa.gov/eisqb/eis_default.aspx.

5) If the inspector determines that the SNAAP is not appropriate for the alleged violation, but administrative action is still appropriate under Order 2150.3, then the formal EIR procedures in Chapter 5 of that order should be used.

6) In the event that enforcement action is withdrawn and no action is determined to be appropriate, the alleged violator will be notified of such in writing. Inspectors should use the no action process as described herein.

7) After the investigating inspector completes the job aid, administrative personnel will enter the information on the job aid into the EIS. Based on the information entered into the EIS, a warning notice, letter of correction, or no action letter (see Figures 14-3 through 14-9) will be generated and issued by the Regulatory Support Division (AFS-600).

8) Administrative and no action letters, as well as by name EIS records, which are generated through the SNAAP under the ASAP, are protected from public disclosure under the Freedom of Information Act (FOIA) in accordance with FAA Order 8000.82, Designation of

Aviation Safety Action Program (ASAP) Information as Protected from Public Disclosure under 14 CFR Part 193. However, other administrative and no action letters, as well as EIS records, generated through the SNAAP are not protected from release under the FOIA.

D. Field Office Process.

1) Inspector. It is not necessary to prepare a formal EIR when using the SNAAP process. After employing the E-EDP Worksheet to determine the appropriate action (warning notice, letter of correction, or no action), inspectors must complete the alleged violator identification, aircraft, and violation data sections of the job aid. EIS data codes may be found in the Order 2150.3, Appendix G. If the action relates to a violation which has been accepted by an ASAP ERC, it is incumbent on the inspector to list the source code as "44." This source code identifies a violation that was investigated by the FAA through the ASAP and provides AFS-600 with the ability to flag the report as protected from the FOIA.

2) Data Entry. Personnel will ensure an EIR number is recorded on the job aid and enter the job aid information into the EIS. Enforcement action code "01" and sanction codes of "15" or "16" must be used for the warning notice or letter of correction, respectively. Enforcement action code "14" must be used for "no action" reports. No entry is required in the sanction code field for "no action" reports. If the action relates to an ASAP record, it is important to ensure that the source code is entered as "44."

3) Management Review. Supervisors will conduct followup reviews of job aids and periodic management reports of the EIS to ensure proper form completion, timely processing, and appropriateness in meeting compliance and enforcement goals and objectives. This action does not need to be accomplished before final case disposition and data entry.

4) Record Retention. Completed job aids will be filed in accordance with local office policy and retained in accordance with the current edition of FAA Order 1350.15, Records Organization, Transfer, and Destruction Standards. Similarly, if application of the E-EDP Worksheet has resulted in a determination that administrative action is appropriate, and the inspector has further determined that it is appropriate to employ the SNAAP for that purpose, the guidance EDP record retention will apply.

5) Copies and Reports. Automated copies of SNAAP administrative action letters may be obtained within 60 days of issuance at: http://av-info.avs.faa.gov/eisqb/eis_default.aspx.

E. AFS-600 Process.

1) Issuance of Automated Letter. AFS-600 will issue an automated warning notice, letter of correction, or no action letter, based on data entered into the EIS mainframe. This notice or letter will normally be issued within 3 working-days after EIS entry.

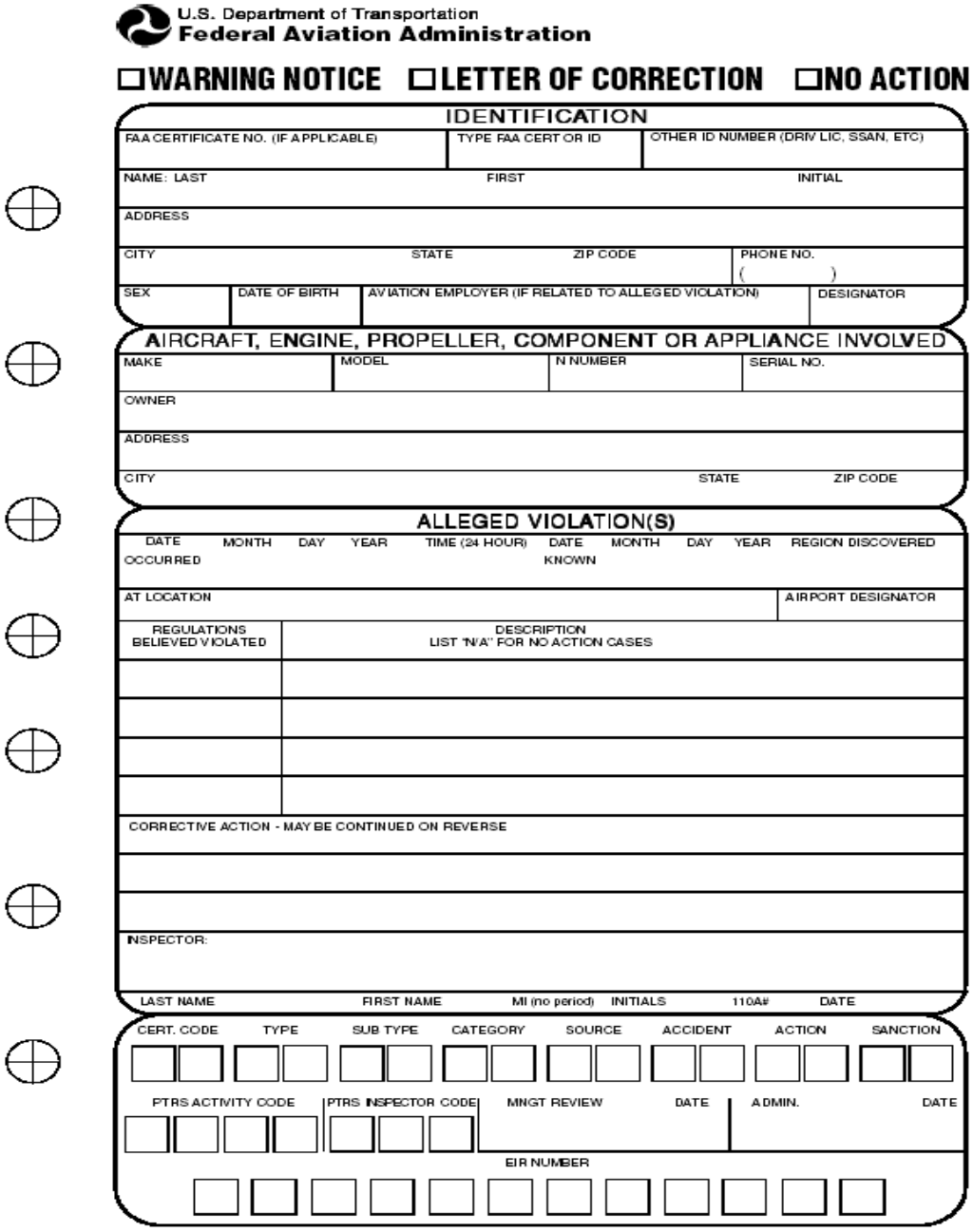
2) Data Quality Assurance. Enforcement records generated by the job aid that cannot be processed due to data entry errors will be annotated as such and returned to the originating office for correction.

3) Management Reports. Standard reports will be available to both district and regional offices to provide feedback to management on the use of the SNAAP. These reports may also be accessed from the FAA Intranet through the EIS at http://av-info.avs.faa.gov/eisqb/eis_default.aspx.

F. Regional Office Process. AFS Regional Offices (RO) review will be in accordance with Volume 14, Chapter 1, Section 8, paragraph 14-143, in addition to the review of SNAAP management reports for general program oversight. Such reports are available by region, fiscal year, and quarter at http://av-info.avs.faa.gov/. If desired, ROs may also access specific SNAAP letters by the applicable EIR number.

G. Program Tracking and Reporting System (PTRS). Aviation safety inspectors (ASI) will make a PTRS entry to record their actions directed by this guidance. The PTRS entry will be listed as activity codes 1733, 1735, 3732, 3733, 5732 and 5733, as appropriate. ASIs will use the comments section to record observations and actions taken.

Figure 14-3. Job Aid



U.S. Department of Transportation
Federal Aviation Administration

☐WARNING NOTICE ☐LETTER OF CORRECTION ☐NO ACTION

IDENTIFICATION

FAA CERTIFICATE NO. (IF APPLICABLE)	TYPE FAA CERT OR ID	OTHER ID NUMBER (DRIV LIC, SSAN, ETC)
NAME: LAST	FIRST	INITIAL
ADDRESS		
CITY	STATE ZIP CODE	PHONE NO. ( )
SEX	DATE OF BIRTH	AVIATION EMPLOYER (IF RELATED TO ALLEGED VIOLATION) / DESIGNATOR

AIRCRAFT, ENGINE, PROPELLER, COMPONENT OR APPLIANCE INVOLVED

MAKE	MODEL	N NUMBER	SERIAL NO.
OWNER			
ADDRESS			
CITY		STATE	ZIP CODE

ALLEGED VIOLATION(S)

DATE OCCURRED MONTH	DAY	YEAR	TIME (24 HOUR)	DATE KNOWN MONTH	DAY	YEAR	REGION DISCOVERED

AT LOCATION	AIRPORT DESIGNATOR

REGULATIONS BELIEVED VIOLATED	DESCRIPTION LIST "N/A" FOR NO ACTION CASES

CORRECTIVE ACTION - MAY BE CONTINUED ON REVERSE

INSPECTOR:

LAST NAME FIRST NAME MI (no period) INITIALS 110A# DATE

CERT. CODE	TYPE	SUB TYPE	CATEGORY	SOURCE	ACCIDENT	ACTION	SANCTION

PTRS ACTIVITY CODE	PTRS INSPECTOR CODE	MNGT REVIEW	DATE	ADMIN.	DATE

EIR NUMBER

Figure 14-4. Warning Notice

FAA letterhead

July 29, 1999

Aviator, Jonathan
123 Golden Dr.
Anytown, US 54321

File Number: 1999DC050024
Reporting Inspector: SMITH, MARY

This notice cites an alleged violation(s) of the following Title 14 of the Code of Federal Regulations (14 CFR) sections that occurred in Oklahoma City, OK, on July 29, 1999.

Cite:14 CFR part 121, § 121.542(b), Flight Crewmember Failed To Maintain Sterile Cockpit.

The determination to issue this notice is based on the facts and circumstances surrounding the alleged violation(s) that were discussed with you by the reporting inspector. If, within 30 calendar-days of the date of this letter, you wish to add additional pertinent information in explanation or mitigation, write to:

Manager
Anytown FSDO
123 Whispering Lane
Anytown, US 54321

It has been determined that this matter does not warrant legal enforcement action; however, the alleged violation(s) will be made a matter of record. Records concerning individuals will be expunged 2 years after the date of issuance. Your future compliance with the regulations is expected.

Figure 14-4. Warning Notice (continued)

Privacy Act Notice

This notice is provided in accordance with section (e)(3) of the Privacy Act, Title 5 of the United States Code (5 U.S.C.) § 552(e)(3).

A. Authority: This information is solicited pursuant to Title 49 of the United States Code (49 U.S.C.) § 40113(a) and the regulations issued there under codified in 14 CFR part 13. Submission of information is voluntary.

B. Principal Purposes:

1. To make a record of the circumstances that are the subject of this warning notice or letter of correction.

2. To assist us in contacting you regarding this enforcement case.

C. Routine Uses: Records from this system of records may be disclosed in accordance with the following routine uses that appear in the System of Records No. Department of Transportation/Federal Aviation Administration (DOT/FAA) 847, General Air Transportation Records on Individuals, DOT/FAA:

1. To provide basic airmen certification and qualification information to the public upon request.

2. To disclose information to the National Transportation Safety Board (NTSB) in connection with its investigation responsibilities.

3. To provide information about airmen to Federal, State, and local law enforcement agencies when engaged in the investigation and apprehension of drug law violators.

4. To provide information about enforcement actions arising out of violations of 14 CFR to government agencies, the aviation industry, and the public upon request.

5. To disclose information to another Federal agency, or to a court or an administrative tribunal, when the Government or one of its agencies is a party to a judicial proceeding before the court or involved in administrative proceedings before the tribunal.

D. Effect of Failure to Respond: Failure to provide information requested may preclude us from closing this matter with a warning notice or letter of correction at this time. In addition, there may be delay in contacting you regarding this enforcement case if necessary.

Figure 14-4. Warning Notice (continued)

About Administrative Action

Warning Notices and **Letters of Correction** are administrative actions. Administrative action is authorized by 14 CFR part 13 and is routinely used for minor infractions instead of legal enforcement (e.g., suspensions, revocations, or fines).

Legal Effect. Neither a warning notice nor a letter of correction constitutes a finding of violation and, therefore, notice and hearing are not required.

Recourse Available. The determination to issue the notice or letter is based on the facts and circumstances surrounding the alleged violation(s) including any information you provided. An airman or company can introduce additional pertinent information in explanation or mitigation by writing to the reporting inspector or district office manager within 30 calendar-days of the date of the notice or letter. Administrative actions can be withdrawn.

Release of Information. When the FAA responds to Pilot Records Improvement Act (PRIA) requests, only final legal enforcement actions resulting in a finding of violation are released. Enforcement database information pertaining to No Actions, Administrative Actions, or Legal Actions in process or under appeal, are not released under the PRIA. However, administrative action information may be released pursuant to a Freedom of Information Act (FOIA) request.

Figure 14-5. Letter of Correction

FAA letterhead

June 30, 2001

Aviator, Jonathan
123 Golden Dr.
Anytown, US 54321

File Number: 2002DC050024
Reporting Inspector: SMITH, MARY

This notice cites an alleged violation(s) of the following Title 14 of the Code of Federal Regulations (14 CFR) sections that occurred in Oklahoma City, OK, on July 29, 1999.

Cite: 14 CFR part 43 § 43.5(b), Person Did Not Properly Execute Form 337 Prior To Return To Service.

The determination to issue this notice is based on the facts and circumstances surrounding the alleged violation(s) that were discussed with you by the reporting inspector. If, within 30 calendar-days of the date of this letter, you wish to add additional pertinent information in explanation or mitigation, write to:

Manager
Anytown FSDO
123 Whispering Lane
Anytown, US 54321

It has been determined that this matter does not warrant legal enforcement action, however, the alleged violation(s) will be made a matter of record. Records concerning individuals will be expunged 2 years after the date of issuance. Your future compliance with the regulations is expected.

Figure 14-5. Letter of Correction (continued)

Privacy Act Notice

This notice is provided in accordance with section (e)(3) of the Privacy Act, Title 5 of the United States Code (5 U.S.C.) § 552(e)(3).

A. Authority: This information is solicited pursuant to Title 49 of the United States Code (49 U.S.C.) § 40113(a) and the regulations issued there under codified in 14 CFR part 13. Submission of information is voluntary.

B. Principal Purposes:

1. To make a record of the circumstances that are the subject of this warning notice or letter of correction.

2. To assist us in contacting you regarding this enforcement case.

C. Routine Uses: Records from this system of records may be disclosed in accordance with the following routine uses that appear in the System of Records No. DOT/FAA 847, General Air Transportation Records on Individuals, DOT/FAA:

1. To provide basic airmen certification and qualification information to the public upon request.

2. To disclose information to the National Transportation Safety Board (NTSB) in connection with its investigation responsibilities.

3. To provide information about airmen to Federal, State, and local law enforcement agencies when engaged in the investigation and apprehension of drug law violators.

4. To provide information about enforcement actions arising out of violations of 14 CFR to government agencies, the aviation industry, and the public upon request.

5. To disclose information to another Federal agency, or to a court or an administrative tribunal, when the Government or one of its agencies is a party to a judicial proceeding before the court or involved in administrative proceedings before the tribunal.

D. Effect of Failure to Respond: Failure to provide information requested may preclude us from closing this matter with a warning notice or letter of correction at this time. In addition, there may be delay in contacting you regarding this enforcement case if necessary.

Figure 14-5. Letter of Correction (continued)

About Administrative Action

Warning Notices and Letters of Correction are Administrative Actions. Administrative action is authorized by 14 CFR part 13 and is routinely used for minor infractions instead of legal enforcement (e.g., suspensions, revocations, or fines).

Legal Effect. Neither a warning notice nor a letter of correction constitutes a finding of violation and, therefore, notice and hearing are not required.

Recourse Available. The determination to issue the notice or letter is based on the facts and circumstances surrounding the alleged violation(s) including any information you provided. An airman or company can introduce additional pertinent information in explanation or mitigation by writing to the reporting inspector or district office manager within 30 calendar-days of the date of the notice or letter. Administrative actions can be withdrawn.

Release of Information. When the FAA responds to Pilot Records Improvement Act (PRIA) requests, *only* final legal enforcement actions resulting in a finding of violation are released. Enforcement database information pertaining to No Actions, Administrative Actions, or Legal Actions in process or under appeal, are *not* released under the PRIA. However, administrative action information may be released pursuant to a Freedom of Information Act (FOIA) request.

Figure 14-6. ASAP Warning Notice

FAA letterhead

July 29, 1999

Aviator, Jonathan
123 Golden Dr.
Anytown, US 54321

File Number: 1999DC050024
Reporting Inspector: SMITH, MARY

This notice cites an alleged violation(s) of the following Title 14 of the Code of Federal Regulations (14 CFR) sections that occurred in Oklahoma City, OK, on July 29, 1999.

Cite: 14 CFR part 121, § 121.542(b), Flight Crewmember Failed To Maintain Sterile Cockpit.

The determination to issue this notice is based on the review of this matter by the Aviation Safety Action Program (ASAP) Event Review Team, the facts and circumstances surrounding the alleged violation(s), and an investigation conducted by the Federal Aviation Administration (FAA). If, within 30 calendar-days of the date of this letter, you wish to add additional pertinent information in explanation or mitigation, write to:

Manager
Anytown FSDO
123 Whispering Lane
Anytown, US 54321

It has been determined that this matter does not warrant legal enforcement action; however, the alleged violation(s) will be made a matter of record. Records concerning individuals will be expunged 2 years after the date of issuance. Your future compliance with the regulations is expected.

Figure 14-6. ASAP Warning Notice (continued)

Privacy Act Notice

This notice is provided in accordance with section (e)(3) of the Privacy Act, Title 5 of the United States Code (5 U.S.C.) § 552(e)(3).

A. Authority: This information is solicited pursuant to Title 49 of the United States Code (49 U.S.C.) § 40113(a) and the regulations issued there under codified in 14 CFR part 13. Submission of information is voluntary.

B. Principal Purposes:

1. To make a record of the circumstances that are the subject of this warning notice or letter of correction.

2. To assist us in contacting you regarding this enforcement case.

C. Routine Uses: Records from this system of records may be disclosed in accordance with the following routine uses that appear in the System of Records No. DOT/FAA 847, General Air Transportation Records on Individuals, DOT/FAA:

1. To provide basic airmen certification and qualification information to the public upon request.

2. To disclose information to the National Transportation Safety Board (NTSB) in connection with its investigation responsibilities.

3. To provide information about airmen to Federal, State, and local law enforcement agencies when engaged in the investigation and apprehension of drug law violators.

4. To provide information about enforcement actions arising out of violations of 14 CFR to government agencies, the aviation industry, and the public upon request.

5. To disclose information to another Federal agency, or to a court or an administrative tribunal, when the Government or one of its agencies is a party to a judicial proceeding before the court or involved in administrative proceedings before the tribunal.

D. Effect of Failure to Respond: Failure to provide information requested may preclude us from closing this matter with a warning notice or letter of correction at this time. In addition, there may be delay in contacting you regarding this enforcement case if necessary.

Figure 14-6. ASAP Warning Notice (continued)

About Administrative Action

Warning Notices and Letters of Correction are administrative actions. Administrative action is authorized by 14 CFR part 13 and is routinely used for minor infractions instead of legal enforcement; (e.g., suspensions, revocations, or fines).

Legal Effect. Neither a warning notice nor a letter of correction constitutes a finding of violation and, therefore, notice and hearing are not required.

Recourse Available. The determination to issue the notice or letter is based on the facts and circumstances surrounding the alleged violation(s) including any information you provided. An airman or company can introduce additional pertinent information in explanation or mitigation by writing to the reporting inspector or district office manager within 30 calendar-days of the date of the notice or letter. Administrative Actions can be withdrawn.

Release of Information. When the FAA responds to Pilot Records Improvement Act (PRIA) requests, *only* final legal enforcement actions resulting in a finding of violation are released. Enforcement database information pertaining to No Actions, Administrative Actions, or Legal Actions in process or under appeal, are *not* released under the PRIA. Administrative Action resulting from an accepted non-sole-source ASAP report is not released pursuant to a Freedom of Information Act (FOIA) request.

Figure 14-7 ASAP Letter of Correction

FAA letterhead

June 30, 2001

Aviator, Jonathan
123 Golden Dr.
Anytown, US 54321

File Number: 2002DC050024
Reporting Inspector: SMITH, MARY

This notice cites an alleged violation(s) of the following Title 14 of the Code of Federal Regulations (14 CFR) sections that occurred in Oklahoma City, OK, on July 29, 1999.

Cite: 14 CFR part 43, § 43.5(b), Person Did Not Properly Execute Form 337 Prior To Return To Service.

The determination to issue this notice is based on the review of this matter by the Aviation Safety Action Program (ASAP) Event Review Team, the facts and circumstances surrounding the alleged violation(s), and an investigation conducted by the Federal Aviation Administration (FAA). If, within 30 calendar-days of the date of this letter, you wish to add additional pertinent information in explanation or mitigation, write to:

Manager
Anytown FSDO
123 Whispering Lane
Anytown, US 54321

It has been determined that this matter does not warrant legal enforcement action, however, the alleged violation(s) will be made a matter of record. Records concerning individuals will be expunged 2 years after the date of issuance. Your future compliance with the regulations is expected.

Figure 14-7. ASAP Letter of Correction (continued)

Privacy Act Notice

This notice is provided in accordance with section (e)(3) of the Privacy Act, Title 5 of the United States Code (5 U.S.C.) § 552(e)(3).

A. Authority: This information is solicited pursuant to Title 49 of the United States Code (49 U.S.C.) § 40113(a) and the regulations issued there under codified in 14 CFR part 13. Submission of information is voluntary.

B. Principal Purposes:

1. To make a record of the circumstances that are the subject of this warning notice or letter of correction.

2. To assist us in contacting you regarding this enforcement case.

C. Routine Uses: Records from this system of records may be disclosed in accordance with the following routine uses that appear in the System of Records No. DOT/FAA 847, General Air Transportation Records on Individuals, DOT/FAA:

1. To provide basic airmen certification and qualification information to the public upon request.

2. To disclose information to the National Transportation Safety Board (NTSB) in connection with its investigation responsibilities.

3. To provide information about airmen to Federal, State, and local law enforcement agencies when engaged in the investigation and apprehension of drug law violators.

4. To provide information about enforcement actions arising out of violations of 14 CFR to government agencies, the aviation industry, and the public upon request.

5. To disclose information to another Federal agency, or to a court or an administrative tribunal, when the Government or one of its agencies is a party to a judicial proceeding before the court or involved in administrative proceedings before the tribunal.

D. Effect of Failure to Respond: Failure to provide information requested may preclude us from closing this matter with a warning notice or letter of correction at this time. In addition, there may be delay in contacting you regarding this enforcement case if necessary.

Figure 14-7. ASAP Letter of Correction (continued)

About Administrative Action

Warning Notices and Letters of Correction are administrative actions. Administrative action is authorized by 14 CFR part 13 and is routinely used for minor infractions instead of legal enforcement (e.g., suspensions, revocations, or fines).

Legal Effect. Neither a warning notice nor a letter of correction constitutes a finding of violation and, therefore, notice and hearing are not required.

Recourse Available. The determination to issue the notice or letter is based on the facts and circumstances surrounding the alleged violation(s) including any information you provided. An airman or company can introduce additional pertinent information in explanation or mitigation by writing to the reporting inspector or district office manager within 30 calendar-days of the date of the notice or letter. Administrative Actions can be withdrawn.

Release of Information. When the FAA responds to Pilot Records Improvement Act (PRIA) requests, *only* final legal enforcement actions resulting in a finding of violation are released. Enforcement database information pertaining to No Actions, Administrative Actions, or Legal Actions in process or under appeal, are *not* released under the PRIA. Administrative action resulting from an accepted non-sole-source ASAP report is not released pursuant to a Freedom of Information Act (FOIA) request.

Figure 14-8. No Action Letter

FAA letterhead

June 30, 2002

Aviator, Jonathan
123 Golden Dr.
Anytown, US 54321

File Number: 2002DC050024
Reporting Inspector: SMITH, MARY

The Federal Aviation Administration (FAA) has investigated an alleged violation that reportedly occurred on January 2, 2002, in the vicinity of Springfield, MO.

This letter is to inform you that the investigation did not establish a violation of 14 CFR, and you may consider the matter closed.

Should you have questions, feel free to contact our office.

Manager
Anytown FSDO
123 Whispering Lane
Anytown, US 54321

Figure 14-9. No Action Letter (ASAP)

FAA letterhead

June 30, 2002

Aviator, Jonathan
123 Golden Dr.
Anytown, US 54321

File Number: 2002DC050024
Reporting Inspector: SMITH, MARY

The Federal Aviation Administration (FAA) has investigated an alleged violation that reportedly occurred on January 2, 2001, in the vicinity of Springfield, MO.

This letter is to inform you that the investigation conducted by the FAA, after a review under the Aviation Safety Action Program (ASAP), did not establish a violation of Title 14 of the Code of Federal Regulations (14 CFR). You may consider the matter closed.

Should you have questions, feel free to contact our office.

Manager
Anytown FSDO
123 Whispering Lane
Anytown, US 54321

RESERVED. Paragraphs 14-159 through 14-172.