

develop, implement, and maintain a Fatigue Risk Management Plan (FRMP). The FRMP is an active plan specific to the air carrier's type of operations that describes, through its policies and procedures, methods for managing and mitigating fatigue to improve flightcrew alertness and reduce performance errors. An FRMP is a management plan for addressing the potential effects of day-to-day flightcrew member fatigue associated with the air carrier's specific type of operations. The air carrier's FRMP should reflect its appropriate fatigue mitigation strategies applicable to its operations. For specific information on a FRMP, see Volume 3, Chapter 58, Section 1.

B. Review and Acceptance Process. The Air Transportation Division, AFS-200, is responsible for reviewing and either accepting or rejecting the air carrier's FRMP. For specific procedures on the FRMP review and acceptance process, refer to Volume 3, Chapter 58, Section 1.

C. OpSpec Issuance. The issuance of OpSpec A317 requires headquarters (HQ) approval.

1) The FAA will issue OpSpec A317 to each part 121 air carrier signifying its FRMP has been reviewed and has been determined to be acceptable. The maximum duration of the OpSpec is 24 calendar-months from the date of issuance and will be reflected on the air carrier's OpSpec A317. Therefore, at a minimum, each part 121 air carrier must submit an amended draft FRMP for review every 24 calendar-months.

2) The POI will be responsible for issuing OpSpec A317 upon receiving approval from AFS-200, and will incorporate the applicable text into the OpSpec as specified in the approval memo issued by AFS-200. For specific guidance on issuing OpSpec A317, refer to Volume 3, Chapter 58, Section 1.

OPSPEC/MSPEC/LOA A353, AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST (ADS-B) OPERATIONS OUTSIDE OF U.S.-DESIGNATED AIRSPACE: 14 CFR PARTS 91, 91K, 121, 125, 125M, AND 135 CERTIFICATE HOLDERS/OPERATORS.

NOTE: NextGen Tracking. Applications for approvals for this paragraph must be entered in the Regional NextGen Tracker as indicated in the General Procedures Section (Volume 3, Chapter 1, Section 1).

A. Applicability. Automatic Dependent Surveillance-Broadcast (ADS B) is a new system for air traffic surveillance within those areas where the ground infrastructure (ADS B ground station and air traffic communications network) is in place and available. ADS B is expected to play an increasing role in the National Airspace System (NAS) as its capabilities evolve, and is expected to be a key element in improving the use of airspace, improving airport surface surveillance, and enhancing safety. ADS B Out is the capability to send a formatted message that includes elements such as position, altitude, velocity, direction, etc., for use by air traffic in providing air traffic separation services.

B. General Guidance.

1) ADS-B System Description.

a) ADS-B is:

1. Automatic and periodically transmits position, velocity, and other information with no pilot or controller action required for the information to be transmitted;
2. Dependent on the aircraft position source (e.g., Global Navigation Satellite System (GNSS)/Global Positioning System (GPS));
3. Used for surveillance services, much like traditional radar; and
4. Used to broadcast aircraft position and other data to any aircraft or ground station equipped to receive ADS-B.

b) The ADS-B system consists of three elements:

1. Avionics. Installed aircraft avionics gather, format, and transmit the message elements from the aircraft via a discrete frequency. ADS-B messages include at least the following elements:

- Aircraft horizontal position (latitude/longitude).
- Aircraft barometric altitude.
- Aircraft identification: the assigned, unique International Civil Aviation Organization (ICAO) 24-bit address.
- Flight ID.
- Special Position Indicator (SPI).
- Emergency status.

NOTE: Flight ID, SPI, and the emergency status are the only message elements that can be modified by the flightcrew.

2. Navigation Source. Position data is typically derived from GNSS/GPS to determine an aircraft's position.

3. Ground Stations. The ground infrastructure must be in place to receive and process the message elements from aircraft and to provide the air traffic automation system with the necessary information for air traffic control (ATC) surveillance and separation services.

2) Application Process.

a) The FAA Flight Standards Service (AFS) local field office receiving a certificate holder/operator request to conduct ADS-B operations should inform the applicant of the application process as shown in Figure 3-67E, Automatic Dependent Surveillance-Broadcast Application Submittal Process Flowchart.

b) For operations outside of U.S.-designated airspace (ADS-B Out), the nonstandard request process should be used (see subparagraph C):

NOTE: To obtain the nonstandard authorization A353, the certificate holder/operator and the responsible principal inspector (PI) are required to use the nonstandard request process. See Volume 3, Chapter 18, Section 2, paragraphs 3-712 and 3-713 for the nonstandard request process.

c) The local AFS field office will conduct a review of the applicant's submitted proposal using applicable guidance contained in subparagraph C and the checklist(s) referenced in subparagraph D. When compliance with all applicable requirements has been demonstrated, the PI will forward the proposal to their regional AFS Next Generation (NextGen) branch for review, as outlined in Figure 3-67E, along with a memorandum requesting AFS headquarters (HQ) concurrence to issue A353.

d) The regional AFS NextGen branch reviews the proposal and coordinates resolution of any discrepancies with the submitting PI. Once this coordination is complete, the regional AFS NextGen branch will forward the proposal to the Flight Technologies and Procedures Division (AFS-400) for coordination with the appropriate AFS HQ policy division(s).

e) Once AFS HQ determines that the proposal demonstrates compliance to all applicable requirements, the appropriate AFS HQ division will forward a letter of concurrence with the PI's request for issuance of the authorization to the submitting regional AFS NextGen branch. The regional AFS NextGen branch will send the AFS HQ concurrence to the requesting PI.

f) Prior to issuance of the A353 authorization by the PI, the certificate holder/operator must comply with any provisions and limitations provided with the AFS HQ concurrence.

NOTE: To expedite issuance of the authorization, an advanced copy of the letter of concurrence may be sent by the appropriate AFS HQ division via e-mail to the regional AFS NextGen branch in advance of the official hardcopy.

3) Applicability. OpSpec/MSpec/LOA A353 is an optional authorization applicable to all certificate holders/operators conducting ADS-B operations under 14 CFR parts 91, 91 subpart K (part 91K), 121, 125 (including the Letters of Deviation Authority (LODA)), 125 subpart M (part 125M), and 135.

NOTE: Authorization to conduct ADS-B Out operations in the airspace defined in § 91.225(c) is not required. Additionally, authorization is not required to use Flight Information Service-Broadcast (FIS-B) or Traffic Information Service-Broadcast (TIS-B) services for situational awareness (SA) onboard the aircraft.

NOTE: The compliance date for the Automatic Dependent Surveillance-Broadcast (ADS-B) Out Performance Requirements to Support Air Traffic Control (ATC) Service final rule is January 1, 2020 (Registry Identification Number (RIN) 2120-AI92).

4) ADS-B Out (Transmit) Functions. Different avionics packages and suites are available to support ADS-B Out. The transmission of message elements by ADS-B-equipped aircraft is known as ADS-B Out.

5) Position Source Dependency.

a) ADS-B derives horizontal and vertical position information from the positioning source on the aircraft, which is typically the GNSS/GPS navigation system. This can mean that the accuracy of the ADS-B system is directly related to the availability of the GPS constellation of satellites. In some installations the altimeter is also used as an added vertical cross-check referred to as baro-aiding. The navigation service and the altimeter must be available and of sufficient quality in order to provide the required level of safety to meet air traffic separation services standards. This dependency can become complicated since the operator is not aware, at any moment, what accuracy is being provided to the avionics.

b) The ADS-B system is heavily dependent on the continued high performance of the avionics and position source. This dependency requires an operator to ensure that the planned operation can meet the performance requirements for the entire route and time of the flight. For this reason, certificate holders/operators should check the availability of the ADS-B service and GNSS/GPS (e.g., Notice to Airmen (NOTAM)) to ensure that ADS-B performance is available.

6) Air Traffic Separation Services.

a) Air traffic separation services using ADS-B enhances operations in several ways. ADS-B data is provided to ATC at a higher rate than existing radar surveillance, resulting in more accurate position information to the controller. This increased position accuracy enables more efficient and effective use of airspace.

b) Air traffic separation services using ADS-B are dependent on the quality and performance of the individual aircraft and the ground system. It is critically important that each piece of the system is operated and maintained in a manner that ensures design performance, supporting the approved safety levels associated with the operation.

7) Contingency Operations. A failure of any one component of the ADS-B system requires ATC to “fallback” to procedural separation standards. Therefore, service provider or certificate holder/operator reliance on ADS-B must be carefully weighed for the contingency operations, which may be required should the ground service, avionics, or positioning source fail.

C. Automatic Dependent Surveillance-Broadcast (ADS-B)-Related Definitions.

1) ADS-B. A surveillance system in which an aircraft or vehicle to be detected is fitted with cooperative equipment in the form of a data link transmitter.

a) The aircraft or vehicle periodically broadcasts its GPS-derived position and other information such as velocity over the data link, which is received by a ground-based transmitter/receiver (transceiver) for processing and display at an ATC facility.

b) ADS-B is a system for airborne or surface aircraft, or other surface vehicles operating within the airport surface movement area, that periodically transmits a state vector and other information.

c) ADS-B is a function on an aircraft or surface vehicle operating within the surface movement area that periodically broadcasts its state vector (horizontal and vertical position, horizontal and vertical velocity) and other information. ADS-B is automatic because no external stimulus is required to elicit a transmission; it is dependent because it relies on onboard navigation sources and onboard broadcast transmission systems to provide surveillance information to other users.

d) ADS-B is an advanced surveillance technology where ADS-B-Out-equipped aircraft share position, altitude, velocity, and other information with ATC and other appropriately equipped aircraft.

2) ADS-B Out.

a) The capability of an aircraft or surface vehicle to periodically broadcast its position, velocity, and other information. ADS-B Out is automatic in the sense that no flightcrew or controller action is required for the information to be transmitted. It is dependent surveillance in the sense that the surveillance information depends on the navigation and broadcast capability of the source.

b) Transmission of an aircraft's position, altitude, velocity, and other information to other aircraft and ATC ground-based surveillance systems.

3) Extended Squitter (ES). A long message (e.g., format DF=17) that Mode S transponders transmit automatically, without needing to be interrogated by a radar, to announce the own-ship aircraft's presence to nearby ADS-B-equipped aircraft.

4) Global Navigation Satellite System (GNSS).

a) A worldwide position, velocity, and time determination system that includes one or more satellite constellations, receivers, and system integrity monitoring, augmented as necessary to support the RNP for the actual phase of operation.

b) The generic term for a satellite navigation system, such as GPS, that provides autonomous worldwide geospatial positioning and may include local or regional augmentations.

5) Global Positioning System (GPS).

a) A space-based radio positioning, navigation, and time-transfer system. The system provides highly accurate position and velocity information, and precise time (on a continuous global basis) to an unlimited number of properly equipped users. The system is unaffected by weather and provides a worldwide common grid reference system. The GPS concept is predicated upon accurate and continuous knowledge of the spatial position of each satellite in the system with respect to time and distance from a transmitting satellite to the user. The GPS receiver automatically selects appropriate signals from the satellites in view and

translates these into three-dimensional position, velocity, and time. System accuracy for civil users is normally 100 meters horizontally.

b) A space-based position, velocity, and time system composed of space, control, and user segments. The space segment, when fully operational, will be composed of 24 satellites in 6 orbital planes. The control segment consists of five monitor stations, three ground antennas, and a master control station. The user segment consists of antennas and receiver-processors that provide positioning, velocity, and precise timing to the user.

c) A U.S. satellite-based radio navigation system that provides a global positioning service. The service provided by GPS for civil use is defined in the GPS Standard Positioning System Performance Standard, 4th edition.

6) International Civil Aviation Organization (ICAO) 24-bit Address. Address assigned to each aircraft transponder of an ADS-B transmitter. For aircraft equipped with Mode S transponders, their replies to Traffic Alert and Collision Avoidance System (TCAS) interrogations and their ADS-B transmissions should use the same 24-bit address, allowing correlations by Airborne Surveillance and Separation Assurance Processing (ASSAP).

7) Mode S. A Secondary Surveillance Radar (SSR) system that operates using addressed interrogation on 1030 megahertz (MHz), and the transponder replies on 1090 MHz. Mode S systems interrogate for aircraft identity (Mode A), altitude (Mode C), and other aircraft-specific information. The aircraft transponder replies with the requested information. Mode S supports a two-way data link and an ADS-B service known as ES.

8) Position Source.

a) The onboard avionics equipment that provides the latitude, longitude, geometric altitude, velocity, position and velocity accuracy metrics, and position integrity metrics. Additionally, the position source may provide the vertical rate parameters.

b) Within this OpSpec, the term Receiver Autonomous Integrity Monitoring (RAIM) is a synonym for Aircraft-Based Augmentation System (ABAS) and is used to refer to both RAIM and RAIM-equivalent algorithms.

9) Secondary Surveillance Radar (SSR). A radar sensor that listens to replies sent by transponders carried onboard airborne targets. SSR sensors, in contrast to primary surveillance radar (PSR) sensors, require the aircraft under surveillance to carry a transponder.

10) Surveillance. Detection, tracking, characterization, and observation of aircraft, other vehicles, weather, and airspace status information and phenomena for the purposes of conducting flight operations in a safe and efficient manner. The primary purposes of traffic surveillance (as distinct from all surveillance functionality) are to control the flow of aircraft, to provide SA for pilots and controllers, and to separate aircraft.

D. ADS-B Out Operations Outside of U.S.-Designated Airspace.

1) Applicability. See subparagraph A.

2) Background. ADS-B provides ATC with an alternate means of surveillance in regions where a radar-based system would be impractical (e.g., Gulf of Mexico (GOMEX), mountainous terrain, etc.) or economically viable. ADS-B allows application of reduced separation standards in these areas and improves the efficiency and safety of operations within the airspace. Currently, ADS-B provides surveillance coverage in several regions outside of U.S.-designated airspace, including portions of Australia, Canada, and in the Asia-Pacific region. Additional ICAO regions and Member States are expected to implement ADS-B in the future.

NOTE: As applicable, authorization under OpSpec A353 and a regional authorization (e.g., OpSpec B050) may be necessary to conduct ADS-B operations in areas outside of U.S.-designated airspace.

3) Airworthiness Considerations. The 1090ES message elements represent new or additional requirements for most certificate holders/operators, including identifying and performing regular specific maintenance actions to ensure the continued airworthiness of the ADS-B equipment with all other interrelated avionics dependencies addressed. Specific checks of all required message elements should be completed on a periodic basis, including the correct functioning of system fault detectors and transmission of the ICAO 24-bit address assigned to each specific aircraft. It is important for the principal maintenance inspector (PMI) and principal avionics inspector (PAI) to ensure that adequate and specific procedures are in place for these checks.

NOTE: ADS-B equipment installed in accordance with AC 20-165 will be considered to meet the equipment requirements of European Aviation Safety Agency (EASA) Acceptable Means of Compliance (AMC) 20-24, Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHz Extended Squitter, dated February 5, 2008. See AMC 20-24 for any additional maintenance, operational, and training considerations.

a) Return to service (RTS) requirements will be incorporated into the instructions for continued airworthiness (ICA) for both the ADS-B system and all source systems.

b) Full system-level testing is required any time the following conditions are met:

1. The main ADS-B transponder is replaced.
2. A source system is disturbed and there is a dedicated input to ADS-B that cannot be verified by other means (source system test, flight deck display, etc.).

4) Canada-Specific Requirements. All U.S. operators wishing to operate in ADS-B-designated airspace within Canada must be in compliance with the following requirements (current editions):

a) EASA AMC 20-24, Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHZ Extended Squitter;

b) Transport Canada AC 700-009, Automatic Dependent Surveillance-Broadcast (ADS-B), paragraph 6.2, Foreign Air Operators; and

c) NAV CANADA Aeronautical Information Circular (AIC) 21/09, Air Traffic Flow Management in the Vicinity of Hudson Bay as a Result of Automatic Dependent Surveillance Broadcast Out Implementation, for information related to ATC services supported by ADS-B.

NOTE: The certificate holder/operator must provide the appropriate Transport Canada Civil Aviation (TCCA) office or representative with a copy of the FAA-issued authorization (OpSpec/MSpec/LOA A353), as appropriate. The certificate holder/operator must also submit the unique ICAO 24-bit aircraft address to NAV CANADA for each aircraft approved for use in ADS-B-designated airspace within Canada.

NOTE: NAV CANADA may accept formats other than octal (i.e., hexadecimal or binary) for the aircraft ICAO 24-bit address. The certificate holder/operator should coordinate with NAV CANADA for acceptable ICAO 24-bit address formats.

NOTE: NAV CANADA maintains an aircraft eligibility list of all aircraft approved for ADS-B services in Canada. Only aircraft with an authorized registration and/or ICAO 24-bit address will be provided ADS-B services.

5) Australia-Specific Requirements. All U.S. operators wishing to operate in designated ADS-B airspace within Australia must be in compliance with the following requirements (current editions):

a) EASA AMC 20-24, Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHZ Extended Squitter; and

b) For General Aviation (GA) operators, Civil Aviation Safety Authority (CASA) Civil Aviation Order (CAO) 20.18, Aircraft Equipment—Basic Operational Requirements; or for certificated operators, CASA CAO 82.5, Condition on Air Operators' Certificates Authorising Regular Public Transport Operations in High Capacity Aircraft.

6) Asia-Pacific-Specific Requirements. All U.S. operators wishing to operate in ADS-B-designated airspace within the Asia-Pacific (outside areas specifically identified previously) must be in compliance with the following requirements (current editions):

a) Singapore: EASA AMC 20-24, Certification Considerations for the Enhanced ATS in ADS-B-NRA Application via 1090ES; and

b) Singapore: AIC 14/10, Introduction to Automatic Dependent Surveillance Broadcast (ADS-B) Out Service within Parts of the Singapore FIR.

NOTE: The Civil Aviation Authority of Singapore (CAAS) plans to implement ADS-B operations after 2013 within the Singapore flight information region (FIR). See AIC 14/10 for specific airways that will require ADS-B.

7) General ADS-B Requirements.

a) Aircraft Flight Manual (AFM) Requirements. The AFM, Aircraft Flight Manual Supplement (AFMS), Airplane Operations Manual (AOM), and/or pilot's operating handbook (POH), as applicable to the specific operator, must be carried in the airplane at all times when ADS-B Out equipment is installed in accordance with a type certificate (TC) or Supplemental Type Certificate (STC). The AFM/AFMS/AOM//POH, as applicable, of each aircraft type must contain a statement that the ADS-B system complies with EASA AMC 20-24 and if deviations are applicable. Deviations, as stated in AMC 20-24, may be included or referenced. If the installed ADS-B system is compliant with AC 20-165, the appropriate manuals should indicate that the installation meets the equipment requirements of § 91.227. This can be accomplished by adding the following statement to the "General" or "Normal Procedures" section of the flight manual: "The installed ADS-B Out system has been shown to meet the equipment requirements of 14 CFR § 91.227."

NOTE: Aircraft without an FAA-approved AFM/AFMS may use the certificate holder's POH to meet the requirements in subparagraph C7)a) following review and concurrence by the local AFS field office PI.

b) Flight Operations Manual (FOM) or Equivalent Requirements. The certificate holder/operator (as applicable) must submit an FOM bulletin or equivalent to the flightcrews describing ADS-B to include:

- ADS-B system description,
- Cockpit setup,
- En route irregular/emergency procedures,
- Communications,
- Aircraft statement of compliance to EASA AMC 20-24, and
- Authorization (see subparagraph D1)).

c) Required Flightcrew/Dispatch/Flight Follower Training (as applicable). Before being authorized to use the ADS-B Out equipment, each member of the flightcrew (including part 91 operators) and the dispatcher/flight follower must have completed an approved training program that includes:

1. Use of ADS-B Out equipment,
2. Specific regional operating practices,
3. Normal procedures,

4. Flight planning,
5. Surveillance phraseology,
6. Emergency procedures,
7. Dispatch considerations (as applicable),
8. Minimum equipment list (MEL) considerations,
9. Human factors,
10. Safety considerations,
11. Equipment limitations, and
12. Contingency planning.

NOTE: If the certificate holder/operator outsources or contracts the ADS-B training to another entity, OpSpec A031 (if applicable) must be issued.

d) **Training Verification.** The PI must verify that the certificate holder's/operator's training is accomplished and that the AFM or supplements indicate compliance with EASA AMC 20-24 or AC 20-165.

e) **Designation of Aircraft.** OpSpec/MSpec/LOA A353, as applicable, requires specific designation of the aircraft approved for operations outside of U.S.-designated airspace. Aircraft make, model, and series (M/M/S), aircraft registration number, and aircraft serial number will be automatically populated to reflect the ADS-B authorization once the PI has updated the respective operator data/aircraft in the Web-based Operations Safety System (WebOPSS) to reflect the ADS-B authorization (see subparagraph D). It is important to ensure that the aircraft M/M/S, registration number, and aircraft serial number for each aircraft is properly recorded.

f) **ICAO Regions of Operation.** ADS-B Out operations conducted by certificate holders are not authorized beyond the areas specified in OpSpec/MSpec B050 (an example of B050 with applicable notes is located in the WebOPSS under the A353 guidance button).

8) Certification Basis of the Aircraft Avionics. The PI must determine that the certificate holder/operator understands and complies with all limitations and conditions associated with applicable STC requirements, Parts Manufacturer Approvals (PMA), and appropriate AFMSs.

a) The PMI and PAI will ensure that the ADS-B system is installed in compliance with the applicable STC or other appropriate aircraft certification requirements and that the certificate holder's/operator's maintenance program includes continuing airworthiness and maintenance personnel training requirements.

b) The POI will review the certificate holder/operator procedures for deferral of inoperative equipment and will coordinate with the PMI and PAI during the evaluation and approval of the certificate holder/operator MEL. The POI will also provide the operator with guidance for revising the existing airplane MEL. The PMI may need to issue or amend OpSpec D095, as appropriate. ADS-B equipment may not be listed as “Administrative Control Items” in the MEL.

c) The PI must verify that the certificate holder/operator is able to conduct the proposed operations, and validate that the appropriate training manuals, operations manuals, checklists, and operating procedures address ADS-B operations.

d) The certificate holder/operator must provide a listing of the aircraft make and model, registration number, serial number, and the make and model of the approved ADS-B equipment. Once the PI receives concurrence from the appropriate HQ policy division to issue OpSpec/MSpec/LOA A353 (as applicable), the PI shall update the respective operator data/aircraft in WebOPSS to reflect the A353 ADS-B authorization (see subparagraph D1)).

9) Application Package. See subparagraph D1).

E. ADS-B Information, Checklists, and Contact Information.

1) For ADS-B application package checklist(s), training checklist(s), the A353 Authorization WebOPSS job aid, and other reference documents located in the WebOPSS A353 guidance section, see Figure 3-67D, Sample Application Package Checklist.

2) To access the reference documents in Figure 3-67D, move paragraph A353 to the workspace in WebOPSS. Once paragraph A353 is in the workspace, highlight A353 and click on the “Guidance” button at the bottom of the screen.

NOTE: AFS field office ASIs should make the appropriate application checklists and reference documents available to certificate holders/operators who do not have access to WebOPSS. Inspectors should encourage industry to complete the appropriate application checklist(s) prior to submission. Completion of the application checklist by certificate holders/operators is optional but highly recommended to expedite the application review process.

3) For additional ADS-B information, please contact the following:

a) For general information on operation requirements and procedures, contact AFS-400 at 202-385-4597, or in Lotus Notes at 9-AWA-AVS-AFS-400-Flight-Technologies-Procedures-Division/AWA/FAA.

b) For parts 121 and 135 special authorizations (300-series OpSpecs/LOAs), contact the Air Transportation Division (AFS-200) at 202-267-8166.

c) For parts 91, 91K, 125, and 125M special authorizations (300-series OpSpecs/MSpecs/LOAs), contact the General Aviation and Commercial Division (AFS-800) at 202-267-8212.

d) For continued airworthiness of ADS-B systems, contact the Aircraft Maintenance Division (AFS-300) at 202-385-6402.

e) For certification of ADS-B systems, contact AIR-130 at 202-385-4630.

f) For technical questions concerning the Automatic Dependent Surveillance-Broadcast (ADS-B) Out Performance Requirements to Support Air Traffic Control (ATC) Service final rule, contact (by mail) the Surveillance and Broadcast Services Program Office, AJE-6, Air Traffic Organization, FAA, 800 Independence Avenue SW, Washington, DC 20591; or by telephone at 202-385-8637.

Figure 3-67D. Sample Application Package Checklist

Category	Title	Description
Revision History	Revision History A353, 14 CFR Part 121	This provides a chronological history of changes to the operations specification (OpSpec) paragraph.
FAA Order	Order 8900.1, Volume 3, Chapter 18, Section 3, OpSpec/Management Specification (MSpec)/Letter of Authorization (LOA) A353	Guidance for OpSpec/MSpec/LOA A353, Automatic Dependent Surveillance-Broadcast (ADS-B) operations.
Civil Aviation Order	Australian Civil Aviation Safety Authority (CASA) CAO 20.18, Aircraft Equipment—Basic Operational Requirements	Australian CASA's ADS-B requirements.
Civil Aviation Order	Australian CASA CAO 82.5, Conditions on Air Operators' Certificates Authorising Regular Public Transport Operations in High Capacity Aircraft	Australian CASA's ADS-B requirements.
Advisory Circular	Transport Canada Advisory Circular (AC) 700-009, Automatic Dependent Surveillance-Broadcast (ADS-B)	Transport Canada AC on ADS-B.
Advisory Circular	AC 20-165, Airworthiness Approval of Automatic Dependent Surveillance (ADS-B) Out Equipment for Operation in the National Airspace System (NAS)	ADS-B equipment approval for the NAS.
Aeronautical Information Circular	Civil Aviation Authority of Singapore (CAAS) Aeronautical Information Circular (AIC) 14/10, Introduction of Automatic Dependent Surveillance Broadcast (ADS-B) Out Service within Parts of the Singapore FIR	CAAS's ADS-B requirements when operating within the Singapore Flight Information Region (FIR).
Aeronautical	NAV CANADA AIC 21/09,	

Category	Title	Description
Information Circular	Air Traffic Flow Management in the Vicinity of Hudson Bay as a Result of Automatic Dependent Surveillance Broadcast Out Implementation	
OpSpec/Mspec/LOA	A353 Authorization WebOPSS Job Aid	Job aid on how to create an A353 ADS-B authorization in WebOPSS.
Other	EASA Acceptable Means of Compliance (AMC) 20-24, Certification Considerations for the Enhanced ATS in ADS-B-NRA Application via 1090ES	
Other	Sample Application Package Checklist	Sample application package checklist to help FAA field inspectors review submitted ADS-B Out application packages.
Other	Sample Training Topics Checklist	Sample training topics checklist to help industry and FAA field inspectors develop respective ADS-B training program.
Other	NAV CANADA ADS-B Functional Compliance Survey Form	NAV CANADA ADS-B Functional Compliance Survey form to be completed by certificate holders/operators and remitted to NAV CANADA.
Other	Sample ADS-B Phraseology	Surveillance phraseology.
Other	ICAO Flight ID—FMC Quick Reference	When conducting ADS-B operations, ensure the ICAO Flight ID is correctly entered into the flight management computer (FMC).

Figure 3-67E. Automatic Dependent Surveillance-Broadcast Application Submittal Process Flowchart

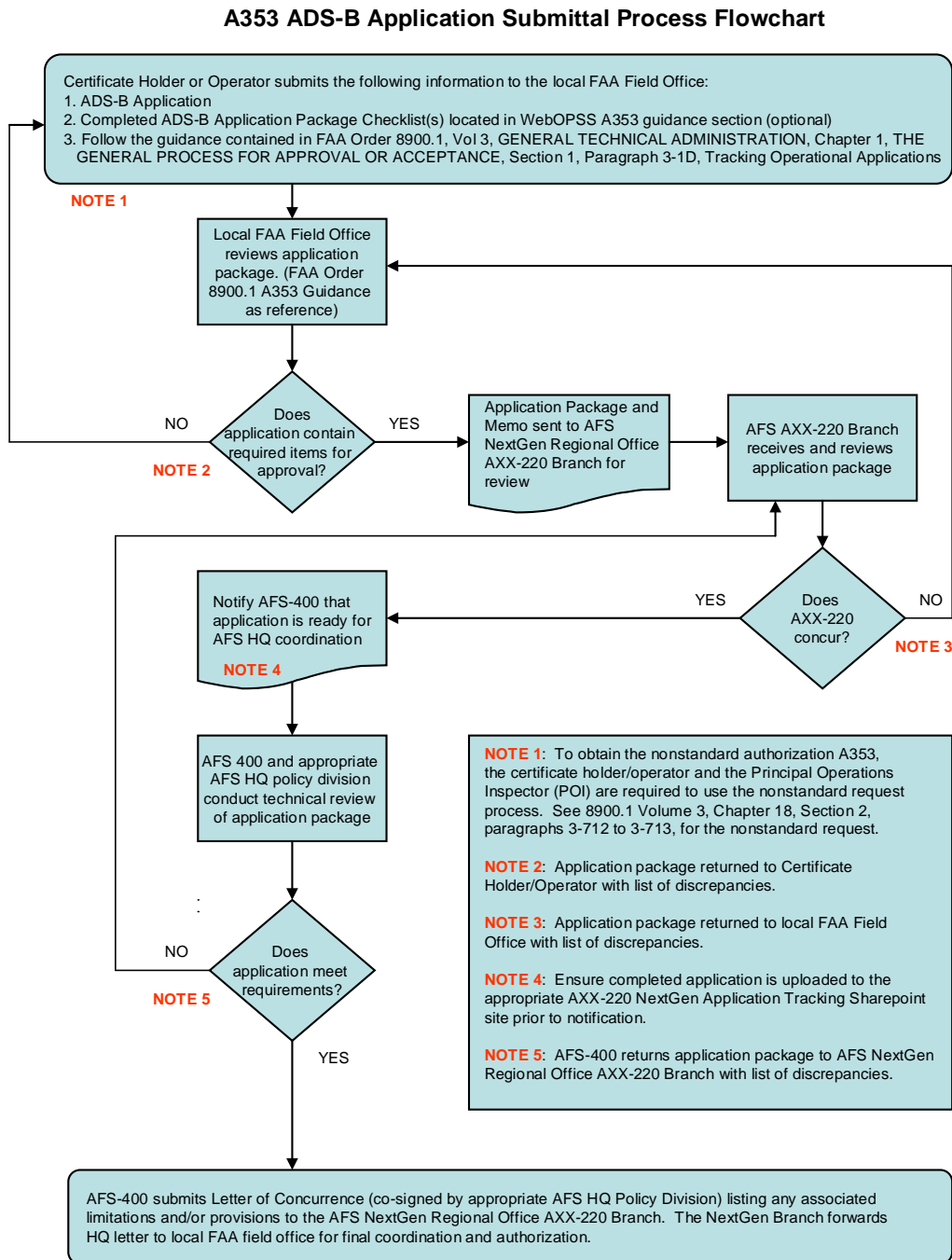


Table 3-23B. Automatic Dependent Surveillance-Broadcast-Related Acronyms

1090ES	1090 MHz Extended Squitter
ADS-B	Automatic Dependent Surveillance-Broadcast
ADS-B-NRA	Automatic Dependent Surveillance-Broadcast-Non-Radar Area
AFM	Airplane Flight Manual
AFMS	Airplane Flight Manual Supplement
AIM	Aeronautical Information Manual
AMC	Acceptable Means of Compliance
ASSAP	Airborne Surveillance and Separation Assurance Processing
ATC	Air Traffic Control
ATS	Air Traffic Service
EASA	European Aviation Safety Agency
FIR	Flight Information Region
FOM	Flight Operations Manual
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
ICAO	International Civil Aviation Organization
LOA	Letter of Authorization
LODA	Letter of Deviation Authority
MEL	Minimum Equipment List
MHz	Megahertz
M/M/S	Make, Model, and Series
NAS	National Airspace System
NextGen	Next Generation Air Transportation System
NM	Nautical Mile
NOTAM	Notice to Airmen
POH	Pilot's Operating Handbook
RAIM	Receiver Autonomous Integrity Monitoring
RIN	Regulation Identifier Number
RNP	Required Navigation Performance
SSR	Secondary Surveillance Radar
STC	Supplemental Type Certificate
TCAS	Terrain Collision and Avoidance System
TCCA	Transport Canada Civil Aviation
TSO	Technical Standards Order