

Parts 91K, 121, 125, and 135

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FLIGHT TECHNOLOGIES AND PROCEDURES DIVISION

Oceanic Required Navigation Performance (RNP) & North Atlantic High Level Airspace (NAT HLA)

Application Guide

Version 2.0

Guide to assist Part 91K, 121, 125, and 135 operators with
B036, B037, B038, B039 and B041



NextGEN

FLIGHT TECHNOLOGIES AND PROCEDURES DIVISION



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2.0	1/07/2026	<i>Initial Operating Capability (IOC)</i>

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Section 1: Introduction

This application guide is for those applying for the following Operations Specifications (OpSpec), Management Specifications (MSpec) and Letters of Authorization (Part 125):

Table 1-1: List of Authorizations Available by using this Guide

Designation	Title
B036	Oceanic and High Remote Continental Operations
B037	Operations in Central East Pacific (CEP) Airspace
B038	Operations in North Pacific (NOPAC) Airspace
B039	Operations in North Atlantic (NAT) High Level Airspace (HLA)
B041	North Atlantic Operations with Two-Engine Aircraft Under Part 121

Note: B036 is a prerequisite for all the authorizations in this guide. The operator may apply for these authorizations in one application with the use of this application guide. For example, see the possible selection options in [Section 2](#).

This application guide was developed by the Federal Aviation Administration (FAA) [Flight Technologies and Procedures Division](#) (AFS-400) to provide operators with an organized method for submitting required content within an application package for the authorizations available by using this guide (see table above). This guide is optional. However, we recommend its use because when the applicant has filled it out correctly and has included sufficient supporting documentation, it will help expedite the application process. Note that we provide an “Application Checklist” at paragraph [A.3](#).

For new applications, operators should schedule a pre-application or “kickoff” meeting/teleconference with your Flight Standards (FS) Office. Your Principal Inspector (PI) will provide the appropriate guidance. If you have any questions, please email your questions to: AFS-410 at: 9-AWA-AVS-AFS410@faa.gov. See instructions on page [1-5](#) for submitting the application.



We encourage you to contact your PI for a “kick-off” meeting prior to applying. This meeting has proven to be useful in helping applicants through the process and provides you with an opportunity to ask questions.



1.1 Applicability

This guide may be used by certificate holders/operators/program managers conducting aircraft operations under 14 CFR Parts 91K, 121, 121/135, 125 (including Part 125 Letter of Deviation Authority (LODA) holders), and 135.

1.2 Terms and Symbols

Current AC: Unless there is a letter at the end of the AC designation, it is linked to the most current version.

Identically Equipped: “Identically equipped” means that aircraft are of the same make/model/series (M/M/S) and have the same long-range navigation system (LRNS) architecture, including the same number and type of LRNS installations. Differences in FMS or LRNS software versions may still be considered identically equipped provided the operator holds official OEM documentation verifying that the software change does not reduce or alter the aircraft’s approved oceanic RNP capability. Any configuration differences beyond this should be evaluated by the PI in coordination with AFS-400/410, as applicable.

Long-Range Navigation System (LRNS): By definition, an LRNS includes an electronic navigation unit that computes for the pilots steering commands to fly the intended route of flight. In many transport aircraft, the electronic navigation unit is the flight management computer (FMC). Your airplane flight manual may refer to the electronic navigation unit by a different term. An LRNS also needs a navigation sensor such as an inertial navigation system and/or a global positioning system.

One-Hour Reliable Fix Operations (1HRF): 1HRF operations are operations over land or over water where a reliable ground-based Navigational Aid (NAVAID) fix is available at least once each hour. OpSpec/MSpec/Part 125 LOA B033, IFR En Route Operations, provides the authorization for 1HRF operations. Generally speaking, operations are either 1HRF operations or oceanic/remote continental operations.

Operator: An “operator” refers to an operator, certificate holder, program manager, and operator/company.

Principal Inspector (PI): This document uses the term “Principal Inspector (PI)” which may be a Principal Operations Inspector (POI), Principal Avionics Inspector (PAI) or Principal Maintenance Inspector (PMI).

Remote Continental Operations: For purposes of the B036 authorization, remote continental operations are those operations over land or over water 50 NM or less from the nearest shoreline that are not 1HRF operations. B036 only authorizes remote continental operations at and above FL 180 (high). In order to conduct remote continental operations below FL 180, the operator would need to obtain OpSpec/MSpec/Part 125 LOA B030.

1.3 Aircraft/Fleet

This application guide is for submitting a single-make, model and series (MMS) of an aircraft. If an operator who already holds a B036 authorization adds an identically equipped aircraft to that authorization, then no additional PI review and authorization is necessary (see paragraph 1.4). For clarifications on what constitutes identically equipped MMS aircraft, consult with your PI and/or specialists in the Flight Operations Group (AFS-410). Use separate application(s) for different MMS aircraft or for those **not** identically equipped.

1.4 Changes to Aircraft Navigation Capability

Operators wishing to upgrade the RNP capability on their B036, e.g. a change from RNP 10 to RNP 4, must ordinarily submit a new application documenting the revised navigation capability of the aircraft. In addition, changes to the navigation configuration of the aircraft from that stipulated in Table 1 of their LOA B036 also requires a revised B036 application. Operators need not submit a new B036 application, or request an amended



B036, for an FMS software update/revision, if they have OEM documentation attesting to the continued RNP capability of the aircraft with the new software. PIs may contact specialists in AFS 400 to discuss operators' aircraft configuration changes.

1.5 B036, Oceanic and High Remote Continental Operations

B036 authorizes operations in oceanic and high remote continental airspace using multiple LRNS and authorizes Required Navigation Performance (RNP) 2 (oceanic/remote), RNP 4 or RNP 10 navigation specifications. An operator receives a B036 based on their aircraft's RNP capability and after demonstrating their overall competence for oceanic and high remote continental operations. RNP 4 and RNP 10 are strictly oceanic and remote continental navigation specifications. RNP 2 has both a "domestic" (continental) authorization and an oceanic/remote continental authorization. B036 also authorizes extended over water operations when using only a single LRNS.

While B036 authorizes IFR en route operations using oceanic RNP on a worldwide basis, it also serves as a prerequisite for other oceanic authorizations in the Atlantic and Pacific. For example, operators need a B039 to operate in North Atlantic High Level (NAT HLA) airspace and a B037 to operate in Central East Pacific (CEP). See [Table 1-2](#) and [Table 1-3](#) for additional authorizations that you may require for your operation.

Note 1: In 2025, OpSpec B054, titled *Oceanic and Remote Airspace Navigation Using a Single Long-Range Navigation System* was decommissioned and combined with B036.

Note 2: The FAA removed Advanced RNP (A-RNP) from the B036 template in 2025. A-RNP capabilities can be authorized via the C063, H123 and P112 authorizations, as applicable. A specific approval (e.g., via an OpSpec) is not required for operators to use the "Parallel Offset" A-RNP capability in their Strategic Lateral Offset Procedures (SLOP).

1.6 B037, Operations in Central East Pacific (CEP) Airspace

A B037 OpSpec/MSpec/Part 125 LOA authorizes operators to fly their aircraft within the Central East Pacific (CEP) airspace. The CEP consists of an organized route system between Hawaii and the West Coast of the United States. RNP 10 is required for operations between Fl 290 and Fl 410 but operators are encouraged to pursue RNP 4 authorization to be eligible for more favorable routing and altitudes. The PI will ensure your procedures and training include topics relevant to CEP airspace. A B036 authorization is a prerequisite for a B037 authorization. For this authorization, fill out the form in [Section 2](#) and attach documentation requested in Section 4, [4.4](#) and Section 5, [TNG-2](#).

1.7 B038, Operations in North Pacific (NOPAC) Airspace

A B038 OpSpec/MSpec/Part 125 LOA authorizes operators to fly their aircraft within North Pacific (NOPAC) airspace. The NOPAC Area of Operation lies within the Anchorage and Tokyo flight information regions (FIR). RNP 10 is required to fly on NOPAC routes between FL 290 and FL 410, but operators are encouraged to pursue RNP 4 authorization to be eligible for more favorable routing and altitudes. In fact, some NOPAC routes require RNP 4 at certain flight levels. Your procedures and training program should include topics relevant to NOPAC airspace. A B036 authorization is a prerequisite for a B038 authorization. For this authorization, fill out the form in [Section 2](#) and attach documentation requested in Section 4, [4.3](#) and Section 5, [TNG-2](#).



1.8 B039, Operations in North Atlantic (NAT) High Level Airspace (HLA)

A B039 OpSpec/MSpec/Part 125 LOA authorizes aircraft operations within the airspace designated by the International Civil Aviation Organization (ICAO) as North Atlantic (NAT) High Level Airspace (HLA). This area extends across the Atlantic between flight level (FL) 285 and FL 420 within oceanic control areas of Bodo Oceanic, Gander Oceanic, New York Oceanic East north of 27 N, Reykjavik, Santa Maria, and Shanwick, excluding the Shannon and Brest Ocean Transition Areas. RNP 10 is required but operators are encouraged to pursue RNP 4 authorization to be eligible for more favorable routing and altitudes. In fact, some routes within NAT HLA require RNP 4 at certain flight levels. Your procedures and training program should include topics relevant to NAT HLA airspace. A B036 authorization is a prerequisite for a B039. For this authorization, fill out the form in [Section 2](#) and attach documentation requested in Section 4, [4.4](#) and Section 5, [TNG-2](#).

1.9 B041, North Atlantic Operations with Two-Engine Aircraft Under Part 121

A B041 is applicable only to Part 121 operators and authorizes operations in the North Atlantic, using twin engine aircraft, subject to a maximum single engine diversion time of 60 minutes. Your procedures and training should address the flight planning requirements and limitations specified in the OpSpec B041 template. A B036 authorization is a prerequisite for a B041. For this authorization, fill out the form in [Section 2](#), and attach documentation requested in Section 4.4 Specific Areas of Operation, B041, [North Atlantic Operations with Two-Engine Aircraft Under Part 121](#) and Section 5, [TNG-2](#).

1.10 Oceanic and High Remote Continental Operations Using a Single LRNS

The FAA has decommissioned OpSpec/MSpec/LOA B054, formerly used for authorizing oceanic, remote continental and RNP 10 operations using a single LRNS. Operators may obtain a B036 authorization for extended over-water, RNP 10 operations with a single LRNS, but this is limited to specific geographic areas. Operators should indicate their intentions regarding single LRNS options in section 2.1 of this guide, as well as complete [Table 2.3](#). Inspectors can find more detailed guidance on issuing single LRNS authorizations, and the options available to operators, in the B036 portion of FAA [Order 8900.1, Volume 3, Chapter 18, Section 4](#). Part 91K operators do not need MSpec B036 to authorize single LRNS operations but must adhere to [14 CFR 91.511](#). Refer to the following applicable regulations that relate to single LRNS operations:

- **Part 91K:** § [91.511](#)(f), Communication and navigation equipment for overwater operations.
- **Part 121:** § [121.351](#)(c), Communication and navigation equipment for extended over-water operations and for certain other operations
- **Part 125:** § [125.203](#)(f), Communication and navigation equipment.
- **Part 135:** § [135.165](#)(g), Communication and navigation equipment: Extended over-water or IFR operations

1.11 Guidance Documents

Refer to the following suggested guidance for oceanic and remote continental operations:

- [AC 91-70, Oceanic and Remote Continental Airspace Operations](#). This document provides detailed guidance for operators planning flights in oceanic and remote continental airspace. As is true for all ACs, [AC 91-70](#) is not mandatory but does contain internationally accepted best practices. You may choose something other than [AC 91-70](#) as a source of guidance, but your inspector will expect your procedures and training to cover the subject matter of this AC.



- [AC 90-105, Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System and in Oceanic and Remote Continental Airspace.](#) This AC is the primary source of guidance on aircraft qualification, operating procedures and pilot training/knowledge on RNP operations. It provides the aircraft eligibility requirements for RNP 2, 4 and 10. The level of detail on aircraft requirements provided in [AC 90-105](#) is primarily for aircraft manufacturers, but you will be required to provide Original Equipment Manufacturer (OEM) statements from your Airplane Flight Manual (AFM) and other documents to verify aircraft eligibility.
- [AC 20-138, Airworthiness Approval of Positioning and Navigation Systems.](#) As indicated by the title, this is primarily manufacturer guidance for airworthiness of position and navigation systems.
- [AC 20-150, Airworthiness Approval of Satellite Voice \(SATVOICE\) Equipment Supporting Air Traffic Service \(ATS\) Communication.](#) This advisory circular (AC) provides guidance on airworthiness approval for designers, manufacturers, and installers of Satellite Voice (SATVOICE) equipment supporting air traffic service (ATS).

1.12 Instructions

1. **Fill-in-the-Blank.** Use the fill-in-the-blank portion of this guide, [Section 2](#), and include a letter or email of request explaining your intentions. [Table 1-2](#) provides a list of the authorizations addressed by this application guide.
2. **Adding Aircraft.** If adding aircraft to an existing authorization(s) that are not the same make/model/series, or identically equipped, then fill out a separate application for each aircraft or fleet and include [Section 3](#). See [paragraph 1.4](#).
3. **Other Authorizations.** [Table 1-2](#) provides a reference of other OpSpecs/MSpecs/Part 125 LOAs that may also may be needed in conjunction with the B036 authorization. Contact your PI for more information.
4. **Attachments.** With each attachment, include the corresponding reference number (e.g. SOC-1) next to each excerpt in a .pdf format and include the document title, page number and paragraph number. If an item is not applicable, provide a brief explanation as to why it does not apply.
5. **Final Application Package Preparation.** See [Appendix A](#) for instructions on using Adobe Acrobat to attach files and the naming convention for submitting this application guide with attachments. This appendix includes a checklist to aid you in making sure your application is complete.
6. **Application Submission.** Submit the completed application to the Flight Standards District Office in your region or send it to your principal inspector. Applications may be submitted electronically via email or through the FAA's [Safety Assurance System \(SAS\) External Portal](#). For access to SAS external portal click **Sign up for SAS** under the Login button.



Note: Submitting applications via the former Operational Approval Portal System (OAPS) is no longer permitted. OAPS has been integrated into SAS and is on the SAS menu as Operations Approval (OAPS) in Module 1.

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Table 1-2: Summary of Authorizations for Oceanic Operations

Operation	Part 91K MSpec	Part 121 OpSpec	Part 125 OpSpec	Part 125M LOA	Part 135 OpSpec	Guidance Remarks
CPDLC	A056	A056	A056	A056	A056	AC 90-117 , NAT OPS bulletins:
ADS-C	A056	A056	A056	A056	A056	AC 90-117
PBCS	A056	A056	A056	A056	A056	AC 90-117
RNP 2 (oceanic/ remote)	B036	B036	B036	B036	B036	AC 90-105
RNP 4	B036	B036	B036	B036	B036	AC 90-105
RNP 10	B036	B036	B036	B036	B036	AC 90-105
Central East Pacific (CEP)	B036 B037	B036 B037	B036 B037	B036	B036 B037	AC 91-70 , ICAO Doc 7030
North Pacific (NOPAC)	B036 B038	B036 B038	B036 B038	B036	B036 B038	AC 91-70 ICAO Doc 7030
North Atlantic (NAT) High Level Airspace (HLA)	B036 B039	B036 B039	B036 B039	B036 B039	B036 B039	AC 90-105 AC 91-70 ICAO Doc 7030 NAT OPS Bulletins NAT Doc 007
Areas of Magnetic Unreliability (AMU)	B040	B040	B040		B040	AC 91-70
North Atlantic Operations with Two-Engine Airplanes Under Part 121		B041				AC 91-70 ICAO Doc 7030 NAT OPS Bulletins NAT Doc 007
Extended Operations (ETOPS)		B342 B344			B342 B344	Part 121, § 121.161 , Part 135, §135.364 Part 135, Appendix G AC 120-42 AC 135-42
RVSM	B046 D092	B046 D092	B046 D092	B046 D092	B046 D092	AC 91-85
Authorized Areas of En Route Operations, Limitations, and Provisions	B050	B050	B050		B050	
North Polar Operations	B055	B055 B342 B344	B055		B055	Part 135, § 135.98 Part 121, § 121.7 (defines Polar area) Part 121 § 121.99 AC 91-70 AC 120-42 AC 135-42

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Table 1-3: OpSpec/MSpec Titles

Designation	Title
A056	Data Link Communications
B036*	Oceanic and High Remote Continental Operations
B037*	Operations in Central East Pacific (CEP) Airspace
B038*	Operations in North Pacific (NOPAC) Airspace
B039*	Operations in North Atlantic High Level Airspace
B040	Operations in Areas of Magnetic Unreliability
B041*	North Atlantic Operations with Two-Engine Airplanes Under Part 121
B046	Operations in Reduced Vertical Separation Minimum (RVSM) Airspace
B050	Authorized Areas of En Route Operations, Limitations, and Provisions
B055	North Polar Operations
B342	Extended Operations with Two-Engine Airplanes under Part 121 or 135
B344	Extended Operations in Passenger-Carrying Airplanes with More than Two Engines, Under Parts 121 or 135
D92	Airplanes Authorized for Operations in Designated Reduced Vertical Separation Minimum Airspace

*These authorizations are addressed in this application guide.



I N T R O D U C T I O N



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Section

2

Section 2: Application Form

2.1 Application Type

Date: Letter or Email of Request is Attached

Operator application for B036 only under the following CFR Part with LRNS

Operator application applying for the following under CFR Part with LRNS

Select all that apply:

- B036 Oceanic and High Remote Continental Operations
- B037 Operations in Central East Pacific (CEP) Airspace
- B038 Operations in North Pacific (NOPAC) Airspace
- B039 Operations in North Atlantic (NAT) High Level Airspace (HLA)

Note: In accordance with 14 CFR [Part 91, § 91.511](#), flights using only a single long-range navigation system (LRNS) over water more than 30 minutes flying time or 100 nautical miles (NM) from the nearest shore are limited to the geographic area defined in [§ 91.511\(f\)](#), if that section is applicable. Operations within NAT HLA using a single LRNS must comply with [§ 91.511](#), if applicable. Such operators, as well as operators with more than one LRNS who do not hold B036, are limited to the special “Iceland-Greenland Corridor” described in [NAT Doc 007](#), North Atlantic Operations and Airspace Manual. Table 1 provides the operator status with respect to B036 and the associated NAT HLA restriction.

Select the option that applies for a B039:

- Operator using only a single LRNS and/or is not authorized oceanic RNP in B036. NAT HLA operations are therefore restricted to the Iceland-Greenland Corridor.
- Operator is authorized oceanic RNP in B036. NAT HLA operations are therefore authorized, including outside the Iceland-Greenland Corridor.

B041 North Atlantic Operations with Two-Engine Aircraft Under Part 121

Upgrading FMS /Avionics/RNP for existing B036: RNP with LRNS

Complete [Section 3](#).

Adding a different aircraft (or one that is **not** identically equipped) to an existing authorization

See note in yellow box on the next page.



Note: If you add an identically equipped aircraft, no application guide is needed. Just inform your PI of the additional aircraft. “Identically equipped” means that an aircraft is identical in every way including MMS, avionics, software, flight deck configuration, and performance as the initial authorization. Minor differences may be accepted as “identically equipped” on a case-by-case basis by the PI.

2.2 Contact Information

Point of Contact for the Application

This is the person the FAA will contact about the contents of this application

Name:	Phone:
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Email:

Aircraft Owner

The person/entity that is the registered owner of the aircraft

Name:

Aircraft Operator

This is the person/ entity with operational control of the aircraft (Type complete legal name)

Name:	4 letter FAA Designator:
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Principal Base of Operations

The physical address where the operator conducts business or resides

Street:	Suite		
City:	State/Province:	Country:	Postal Code:

Principal Inspector (PI)

The FAA Aviation Safety Inspector (ASI) assigned to evaluate eligibility for B036, B037, B038, B039, B041 and B050 authorizations.

Name:	Phone:
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Email:





2.3 Aircraft Information

Aircraft Information		
<i>Airport Name and Identifier where the aircraft is located:</i>		
<i>Manufacturer:</i>	<i>Model:</i>	<i>Series:</i>
<i>Registration and Serial Numbers:</i>		

2.4 Description of Operation

Briefly describe your operation as it relates to oceanic and high remote continental airspace. Include any other possible Operation Specifications/Management Specifications/Letters of Authorization that you intend to obtain.

2.5 Aircraft/Fleet and Navigation Equipage

B036 oceanic and high remote continental authorizations are available for aircraft with multiple and/or single LRNS. For oceanic/remote RNP 2, you must have at least two LRNS with each system receiving a GNSS source. For RNP 4, at least one of the two LRNS must have a GNSS source. For RNP 10, both LRNS may have any combination of GNSS and inertial sources. B036 single LRNS oceanic RNP 10 authorizations are available if supported by a statement of compliance (SOC), either for aircraft equipped with 2 LRNS to enable Minimum Equipment List (MEL) relief, or for aircraft equipped with only a single LRNS. Though not a part of the B036 authorization, the aircraft’s communication systems must be adequate for over-water operations.





2.6 Avionics

Table 2-1: Communication/Navigation/Surveillance (CNS) Equipment Information

Relevant regulations are Part 91, §§[91.511](#) and [91.703](#); Part 135, §[135.165](#); and Part 121, §[121.351](#). Your aircraft must have voice two-way radio communication that is adequate for maintaining a continuous air-to-ground voice communication watch on the appropriate communication channel to comply with [ICAO Annex 2](#), paragraph 3.6.5.

Number Installed	Type	Manufacturer(s)	Model(s)	ATC Flight Plan Field 10A/B	ATC Flight Plan Field 18
	FMS			N/A	N/A
	GNSS				
	IRS				
	HF				
	SATVOICE				
	TCAS			N/A	N/A
	FANS				

Notes:

1. Reference [Appendix 4](#) of the US Aeronautical Information Manual or [FAA Flight Planning Information](#)
2. Approved SATVOICE must be installed in accordance with [AC 20-150](#)



2.7 Sample Table 1 and/or Table 2

Table 2-2 and 2-3 are representations of Table 1 and Table 2 respectively, in the actual B036 authorization. These tables should list the major components of an LRNS which are the flight management computer (FMC) (or other unit performing the electronic navigation unit function of the LRNS), and the navigation sensors (Global Navigation Satellite System (GNSS) and/or inertial navigation system (INS)). B036 uses “bundling” which is a hierarchy of navigation capabilities starting with the most stringent and combining it with lesser capabilities. For example, if your aircraft is capable of RNP 4 then you would be authorized for RNP 4 and RNP 10. Oceanic/remote RNP 2 can also be authorized, though it is not currently in use for oceanic operations. Complete Table 2-2, Table 2-3, or both, as needed for your application.

Table 2-2: Sample Authorization Table – Authorized Airplane(s), Equipment, Using Multiple LRNS

Airplane M/M/S	Multiple Long-Range Navigation Systems (LRNS)					Navigation Specification(s)	RNP Time Limits <i>(If not in AFM)</i>
	Qty	Component/ Navigation Sensor	Manufacturer	Model Name	Software Version # <i>(“and later” if no impact to RNP)</i>		



Table 2-3: Sample Oceanic RNP Authorized Airplane(s), Equipment Using a Single LRNS

Airplane M/M/S	Single Long-Range Navigation System (LRNS)				Navigation Specification(s)	RNP Time Limits <i>(If not in AFM)</i>
	Component <i>(FMC/FMS or Navigation Sensor)</i>	Manufacturer	Model Name	Software Version # <i>(“and later” if no impact to RNP)</i>		





Section
3

Section 3: Aircraft Eligibility Attachments

For each attachment, identify the necessary page(s)/paragraph(s) to establish compliance. It is not necessary to attach an entire document if the excerpted pages adequately can establish compliance. Include the corresponding reference numbers with each attachment in a separate PDF document. Specific airworthiness guidance is provided in [AC 20-138](#).

3.1 Statement of Compliance (SOC)

Reference Number	Attached	N/A	SOC Attachments
SOC-1			<p>Provide a statement of compliance (SOC) indicating the oceanic RNP value for your aircraft, with installation in accordance with (AC) 20-138. The SOC may be in your Airplane Flight Manual (AFM), Airplane Flight Manual Supplement (AFMS), pilot’s operating handbook (POH), avionics operating manual or manufacturer’s service letter. This SOC may be provided from the manufacturer, the entity that owns the design approval for the installed navigation systems or an alternative authority approved by the FAA. If requesting RNP 10 with a single LRNS, provide a SOC specifically attesting to single LRNS RNP 10 capability.</p> <p><i>Source: AC 90-105, Appendices: E, F, and G, paragraphs: E.2.1, F.2.1, G.2.1</i></p>





3.2 Equipage:

Reference Number	Attached	N/A	Equipage Attachments
EQP-1			<p>RNP 2:</p> <p>For Oceanic /remote RNP 2, provide documentation that your aircraft has at least two independent LRNS with at least two independent GNSS navigation sensors. Please see the description of LRNS in paragraphs 1.2 and 2.7. Documentation must show the aircraft is equipped in accordance with those descriptions, to include the unit(s) performing the navigation computing functions.</p> <p>Note: Qualifying documentation would be maintenance log, OEM equipment list, CAMP report or similar, and show aircraft tail/serial number.</p> <p>Source: AC 90-105, paragraph E.3</p>
EQP-2			<p>RNP 4:</p> <p>For RNP 4 provide documentation that your aircraft has at least two independent LRNS and at least one GNSS sensor. With a single GNSS sensor, the LRNS would require at least one inertial navigation sensor as well. Please see the description of LRNS in paragraphs 1.2 and 2.7. Documentation must show the aircraft is equipped in accordance with those descriptions, to include the unit(s) performing the navigation computing functions.</p> <p>Note: Qualifying documentation would be maintenance log, OEM equipment list, CAMP report or similar, and would show aircraft tail/serial number.</p> <p>Source: AC 90-105, paragraph F.2</p>





Reference Number	Attached	N/A	Equipage Attachments
EQP-3			<p>RNP 10, Single LRNS (RNP 10 or No Oceanic RNP)</p> <p>Provide documentation that your aircraft has one LRNS receiving inputs from GNSS or inertial navigation sources. Without a statement of compliance that the aircraft is capable of RNP 10 with a single LRNS, the applicant may obtain a B036 that indicates “No oceanic RNP.</p> <p>Note: Qualifying documentation showing equipment installation should be identified with tail/serial number and be submitted via maintenance log, equipment list, CAMP report or similar reference.</p> <p>Source: AC 90-105, paragraph G.2-G.7</p>
EQP-4			<p>RNP 10, Multiple LRNS</p> <p>Provide documentation that your aircraft has at least two independent LRNS receiving inputs from GNSS or inertial navigation sources. Please see the description of LRNS in paragraphs 1.2 and 2.7. Documentation must show the aircraft is equipped in accordance with those descriptions, to include the unit(s) performing the navigation computing functions.</p> <p>Source: AC 90-105, paragraph G.2-G.7</p>
EQP-5			<p>Provide documentation that your SATVOICE system is compliant with AC 20-150 (or subsequent edition). MEL relief for an inoperative HF radio is only available for compliant SATVOICE systems.</p> <p>Note: Aircell systems, and systems with only a handset, are not compliant with AC 20-150 and do not qualify as SATVOICE.</p>
EQP-6			<p>Provide documentation that your aircraft is equipped with TCAS II, V. 7.1.</p> <p>Note: Requirement is for flights operating in the European Union (EU) and in the North Atlantic (NAT).</p> <p>Sources: Commission Regulation No 1332/2011, ‘ACAS II Regulation and ICAO Regional Supplementary Procedures (Doc 7030), NAT para 5.3.1.</p>

A I R C R A F T E L I G I B I L I T Y A T T A C H M E N T S



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Section 4: Operational Attachments

Attach your **entire** International Operations Manual (IOM) and/or General Operations Manual (GOM)/Flight Operations Manual (FOM), as applicable for this application package. Please **highlight** the page(s)/paragraph(s) to address each item from OPS-1 through OPS-11 below, and if able, hyperlink the reference number to the appropriate section using the Adobe Acrobat attachment feature. Please also enter the page/paragraph number(s) from your IOM (or other supporting document/excerpt) in the provided text fields of each block from OPS-1 through OPS-11. IOMs/GOMs etc. should, at a minimum, address the subject matter listed in appendix G of [AC 91-70](#).

Policies and procedures for pilots and operational staff involved in oceanic and remote continental operations as well as oceanic RNP operations are established in accordance with [AC 91-70](#) and [AC 90-105](#). This section includes the minimum operational requirements in the following areas:

1. Operational Procedures
2. Master Minimum Equipment List/Minimum Equipment List (MMEL/MEL)
3. Specific Areas of Operation (i.e. CEP, NOPAC, and NAT HLA)
4. Flight Plans





4.2 Operational Procedures

Reference Number	Attached	N/A	Operational Attachments
OPS-1			<p>Provide procedures for operating the aircraft RNP system as they pertain to oceanic and high remote continental RNP operations, to include alerts displayed in the event of system failure or degradation, and required pilot action. Procedures should direct pilots to inform ATC if degradation causes a change in RNP status.</p> <p><i>Source: AC 90-105, paragraphs E.9, F.8. and G.11.</i></p> <p><i>Applicant notes/references. Please provide the name of the supporting document as well as page(s)/paragraph(s) references, e.g., “IOM, paragraphs 3.5 and 3.6.”</i></p>
OPS-2			<p>If our aircraft is equipped only with Global Navigation Satellite System (GNSS) navigation sensors (i.e., no inertial navigation sensor) provide procedures directing pilots to obtain a Fault Detection and Exclusion (FDE) prediction, and the associated limits in the event of outages. Provide your dead reckoning procedures to enable pilots to proceed safely in the event of GNSS outage. Provide your guidance to pilots on how to recognize GNSS spoofing, jamming and interference.</p> <p><i>Source: AC 90-105, Appendices: E, F, and G, paragraphs E.8.2.1, F.4.3.1 and G.7.1</i></p> <p><i>Applicant notes/references. Please provide the name of the supporting document as well as page(s)/paragraph(s) references, e.g., “IOM, paragraphs 3.5 and 3.6.”</i></p>
OPS-3			<p>Provide pilot procedures for the manual entry of undesignated waypoints (i.e. latitude and longitude). Include guidance on how such manually entered waypoints are displayed on the navigation display and in the FMS (i.e., how they are labeled/named.)</p> <p><i>Source: AC 90-105, Appendices: E, F, and G, paragraphs: E.9.5, F.8.3, G.11.3.1 and AC 91-70, Table 6-2.</i></p> <p><i>Applicant notes/references. Please provide the name of the supporting document as well as page(s)/paragraph(s) references, e.g., “IOM, paragraphs 3.5 and 3.6.”</i></p>



Reference Number	Attached	N/A	Operational Attachments
OPS-4			<p>Provide LRNS preflight procedures to include pilot procedures to confirm the correct route is loaded.</p> <p><i>Source: AC 90-105, Appendix F and G, paragraph: F.8.3.1 and G.11.3.2; AC 91-70, Chapter 6, paragraph 6.3 , Appendix D, paragraph D.2.2.12.</i></p> <p><i>Applicant notes/references. Please provide the name of the supporting document as well as page(s)/paragraph(s) references, e.g., “IOM, paragraphs 3.5 and 3.6.</i></p>
OPS-5			<p>Provide procedures/guidance on when and how to perform a Strategic Lateral Offset Procedure (SLOP).</p> <p><i>Source: AC 90-105, Appendices: E, and F: paragraph E.9.5.8 and F.8.3.8; AC 91-70, paragraph 6.4.3.4.2 and US-AIP, ENR 7</i></p> <p><i>Applicant notes/references. Please provide the name of the supporting document as well as page(s)/paragraph(s) references, e.g., “IOM, paragraphs 3.5 and 3.6.”</i></p>
OPS-6			<p>For aircraft equipped with GPS and inertial sensors, provide your pilot procedures to ensure GPS is used for position computation during RNP 2 (oceanic/remote) and RNP 4 operations.</p> <p><i>Source: AC 90-105, Appendices: E, F, and G, paragraphs: E.9.6, F.8.3.11, and G.11.3.10</i></p> <p><i>Applicant notes/references. Please provide the name of the supporting document as well as page(s)/paragraph(s) references, e.g., “IOM, paragraphs 3.5 and 3.6.”</i></p>



Reference Number	Attached	N/A	Operational Attachments
OPS-7			<p>Provide IOM/procedural references of pilot cross-checking procedures to identify navigation errors in sufficient time to prevent an inadvertent deviation from ATC-cleared routes. Your procedures should include cross-checking aircraft position at a point approximately 5-10 minutes after oceanic waypoint passage using one of the following methods:</p> <ul style="list-style-type: none"> • Plotting or e-plot on a chart or • Use of aircraft FMS-driven navigation displays and indications <p>Source: AC 90-105, Appendices E and F, paragraphs: E.9.5.6 and F.8.3.5, ; AC 91-70, Chapter 6, paragraph 6.4.8.2 ; guidance for use of Electronic Flight Bag (EFB) plotting applications is in Note under paragraph 6.3.1.12.1.3.</p> <p>Applicant notes/references. Please provide the name of the supporting document as well as page(s)/paragraph(s) references, e.g., “IOM, paragraphs 3.5 and 3.6.”</p>
OPS-8			<p>Provide your checklist used for oceanic operations.</p> <p>Source: AC 91-70, Appendix D</p> <p>Applicant notes/references. Please provide the name of the supporting document as well as page(s)/paragraph(s) references, e.g., “IOM, paragraphs 3.5 and 3.6.”</p>





Reference Number	Attached	N/A	Operational Attachments
OPS-9			<p>Provide IOM/procedural references of emergency and contingency procedures and how the flight crew will have “ready access” to those procedures (per OpSpec B036), e.g. via laminated card or oceanic checklist attachment. Include the following:</p> <ul style="list-style-type: none"> • Inability to comply with assigned clearance due to meteorological conditions, aircraft performance, or pressurization failure; • En route diversion across the prevailing traffic flow; • Loss of, or significant reduction in, the required navigation capability when operating in airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations; • Performing turn backs, diversions, and weather deviation; • ICAO Special Procedures for In-flight Contingencies in Oceanic Airspace; and • Degradation or loss of LRNS after departure. <p>Source: AC 91-70, Appendix F, US-AIP, ENR 7</p> <p><i>Applicant notes/references. Please provide the name of the supporting document as well as page(s)/paragraph(s) references, e.g., “IOM, paragraphs 3.5 and 3.6.”</i></p>
OPS-10			<p>Provide documentation of your navigation database procedures for:</p> <ol style="list-style-type: none"> 1. System initialization to verify that the navigation database is current 2. Reporting discrepancies that invalidate a procedure (e.g. database errors) to the navigation database supplier <p>Source: AC 90-105, Chapter 10, paragraph 10.7.</p> <p><i>Applicant notes/references. Please provide the name of the supporting document as well as page(s)/paragraph(s) references, e.g., “IOM, paragraphs 3.5 and 3.6.”</i></p>



Reference Number	Attached	N/A	Operational Attachments
OPS-11			<p>Provide documentation of guidance to pilots and operational support staff to maintain, for a period of three months, the operational flight plan used by the flight crew as the “master document”, from any flight in which oceanic navigation or ATC clearance irregularities occurred, and from all flights not using ADS-C.</p> <p><i>Source: OpSpec/MSpec B036</i></p>

4.3 MEL

Reference Number	Attached	N/A	MEL Attachment
MEL-1			<p>Provide sections 23 and 34 of your MEL, including the M and O procedures. Operators can use CPDLC compliant with RCP 240 as relief for one inoperative HF radio, as long as one HF radio remains operative. However, in accordance with 14 CFR § 91.511, part 91 subpart F operators need only one HF radio for overwater operations, if they have 2 VHF radios.</p> <p><i>Source: Part 91, § 91.213, AC 90-105, Chapter 8, paragraph 8.3; Appendix E, paragraph E.8.2; Appendix F, paragraph F.7.2.</i></p>





4.4 Specific Areas of Operation

B037, Operations in Central East Pacific (CEP) Airspace

If you are applying for B037, then include your operational procedures that relate to operating within CEP airspace.

Note: Operators must have been issued or are in the process of applying for a B036 to be considered for B037. This application guide can be used to apply for both authorizations.

Reference Number	Attached	N/A	CEP Attachment
CEP-1			<p>Provide operating procedures that are specific to operating in CEP airspace. Leave unchecked if this attachment does not apply.</p> <p>Sources: U.S. AIP, ENR 7, AC 91.70, FAA Chart Supplement Pacific</p> <p><i>Applicant notes/references. Please provide the name of the supporting document as well as page(s)/paragraph(s) references, e.g., "IOM, paragraphs 3.5 and 3.6."</i></p>

B038, Operations in North Pacific (NOPAC) Airspace

If you are applying for B038, then include your operational procedures that relate to operating within NOPAC airspace.

Note: Operators must have been issued or are in the process of applying for a B036 to be considered for B038. This application guide can be used to apply for both authorizations.

Reference Number	Attached	N/A	NOPAC Attachment
NOPAC-1			<p>Provide operating procedures that are specific to operating in NOPAC airspace. Leave unchecked if this attachment does not apply.</p> <p>Sources: U.S. AIP, ENR 7, AC 91.70, FAA Chart Supplement Pacific, FAA Chart Supplement Alaska</p> <p><i>Applicant notes/references. Please provide the name of the supporting document as well as page(s)/paragraph(s) references, e.g., "IOM, paragraphs 3.5 and 3.6."</i></p>



B039, Operations in North Atlantic (NAT) High Level Airspace (HLA)

If you are applying for B039, then include your operational procedures that relate to operating with NAT HLA airspace.

Note: Operators must have been issued or be in the process of applying for a B036 to be considered for B039. This application guide can be used to apply for both authorizations.

Reference Number	Attached	N/A	NAT Attachment
HLA-1			<p>Provide your comprehensive guidance to pilots on how to plan for, and conduct operations in NAT HLA.</p> <p>Sources: U.S. AIP, ENR 7, NAT Doc 007, NAT Ops Bulletins</p> <p>Applicant notes/references. Please provide the name of the supporting document as well as page(s)/paragraph(s) references, e.g., "IOM, paragraphs 3.5 and 3.6."</p>

B041, North Atlantic Operations with Two-Engine Aircraft Under Part 121

If you are applying for B041, then include your flight planning, dispatch and navigation/communication procedures applicable to North Atlantic twin engine aircraft operations under Part 121.

Reference Number	Attached	N/A	NAT Attachment
NAT-1			<p>Provide flight planning, dispatch and pilot procedures applicable to NAT twin engine operations, in accordance with OpSpec B041. Also provide guidance to dispatchers and flight crew to ensure they observe the navigation and communications limitations stipulated in B041.</p> <p>Sources: U.S. AIP, ENR 7, NAT Doc 007, OpSpec B041</p> <p>Applicant notes/references. Please provide the name of the supporting document as well as page(s)/paragraph(s) references, e.g., "IOM, paragraphs 3.5 and 3.6."</p>



4.5 B050, Authorized Areas of En Route Operations, Limitations, and Provisions

If you are applying to add authorized areas to your B050, then include a draft of the new B050 that includes the requested authorized areas and associated reference paragraphs, as well as any notes that may apply.

Note: Operators should coordinate with their PI if they do not have access to the FAA’s [Safety Assurance System \(SAS\) External Portal](#).

Reference Number	Authorized Areas Attachment
B050-1	<p>Create a draft of the B050 in the SAS/WebOPSS Workspace that includes requested authorized areas and associated reference paragraphs, as well as any notes that may apply. If you have any questions, contact AFS-410.</p> <p>Source: FAA’s Safety Assurance System (SAS) External Portal</p> <p><i>Applicant notes/references.</i></p>





4.6 Flight Plans

Reference Number	Attached	N/A	Flight Plan Attachment
FLP-1			<p>Demonstrate your oceanic/high remote continental flight planning capability for a representative flight through oceanic/remote continental airspace in areas of your intended operations. If requesting OpSpec B039, the flight should be routed through NAT HLA. Your flight planning package for FLP-1 should include the following:</p> <ul style="list-style-type: none"> ➔ A sample Master Document OFP/crew flight plan/computer flight plan. ➔ A sample ATC flight plan (FAA Form 7233-4) with codes entered in Fields 10 and 18 supported by installed and authorized equipment. ➔ Equal Time Point (ETP) analysis for the oceanic flight plan. ➔ Fuel planning in accordance with ICAO Annex 6, Part I as applicable. ➔ Additionally, provide the following, as applicable: <ul style="list-style-type: none"> • For all flights through NAT HLA, the NAT track message for the date of intended flight, • Sample graphic depiction of tracks, Equal Time Points (ETPs) and ETOPS ring overlays normally provided with OFP, • Sample applicable NOTAMs, GPS NOTAMS, and • Sample RAIM prediction. <p>Below are resources to aid in your flight planning:</p> <ul style="list-style-type: none"> • AC 91-70 (addresses Master Document) • FAA Form 7233-4 • FAA Flight Planning Information



Section
5

Section 5: Training Attachments

This section is to provide documentation from your training program that addresses the operational practices in oceanic and high remote continental operations. For each attachment, provide the relevant page(s)/ paragraph(s) reference to establish compliance. It is not necessary to attach an entire document if the excerpted pages can adequately establish compliance. Please highlight the requested documentation and if able, hyperlink the reference number to the appropriate section using the Adobe Acrobat attachment feature.

Reference Number	Attached	N/A	Training Attachments
TNG-1			<p>Provide documentation that your training program comprehensively covers the operational requirements and operating procedures prescribed for oceanic and high remote continental operations, to include oceanic RNP operations. Training programs should be based on the subject matter provided in AC 91-70 , as well as the oceanic RNP content provided in AC 90-105. If training will be conducted by a contract training provider in accordance with 14 CFR §91.1075, §121.402, §125.296, §135.324, that training provider must be approved on the operator’s Op-Spec/MSpec/ part 125 LOA A031.</p> <p>Source: AC 90-105, Chapter 8, paragraphs 8.2.2 and 8.4; AC 91-70, Chapter 3, paragraph 3.2</p>





Reference Number	Attached	N/A	Training Attachments
TNG-2			<p>This attachment is only for those operators applying for B037, B038, and/or B039. Select one or more of the authorizations below.</p> <p>B037 OpSpec/MSpec/ part 125 LOA, Operations in Central East Pacific (CEP) airspace</p> <p>B038 OpSpec/MSpec/ part 125 LOA, Operations in North Pacific (NOPAC) airspace</p> <p>B039 OpSpec/MSpec/ part 125 LOA, Operations in North Atlantic (NAT) High Level Airspace (HLA)</p> <p>For any or all the above, provide the following:</p> <p>Provide documentation that your training program adequately covers the operational requirements and operating procedures applicable to the specific airspace (CEP, NOPAC, NAT HLA), and/or the specific OpSpecs. Training must include responses to any loss of long-range navigation capability while in the applicable airspace.</p>
TNG-3			<p>This attachment is only for those operators applying for B041, North Atlantic Operations with Two-Engine Aircraft Under Part 121.</p> <p>Provide documentation that your training program adequately covers the operational requirements and operating procedures applicable to the NAT airspace, and OpSpec B041. Training must include responses to any loss of long-range navigation capability while in the applicable airspace.</p>





Section
6

Section 6: Additional Attachments/Information

6.1 Additional PI Requested Documentation

This section is for any additional information that may be requested by your PI. For each attachment, provide the necessary page(s)/paragraph(s) to establish compliance. It is not necessary to attach an entire document if the excerpted pages can adequately establish compliance. Include the corresponding reference number with the attachment.

Reference Number	Attached	N/A	Additional PI Requested Documentation
POI-1			If requested, attach additional documentation requested by your PI.

6.2 Document Review

Check each document below to indicate you are knowledgeable with each.

Check Box	Document List
	AC 90-105 , Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System and in Oceanic and Remote Continental Airspace
	AC 20-138 , Airworthiness Approval of Positioning and Navigation Systems.
	AC 91-70 , Oceanic and Remote Continental Airspace Operations
	United States Aeronautical Information Publication (AIP), Part 2, ENR 7, Oceanic Operations .
	Performance-based Communication and Surveillance (PBCS) Manual (Doc 9869), ICAO.
	State Aeronautical Information Publications (AIP).
	State Notices to Airmen (NOTAM). (U.S. Link)
	FAA chart supplements , Oceanic Errors Safety Bulletin (OESB) (NAT OPS Bulletins).




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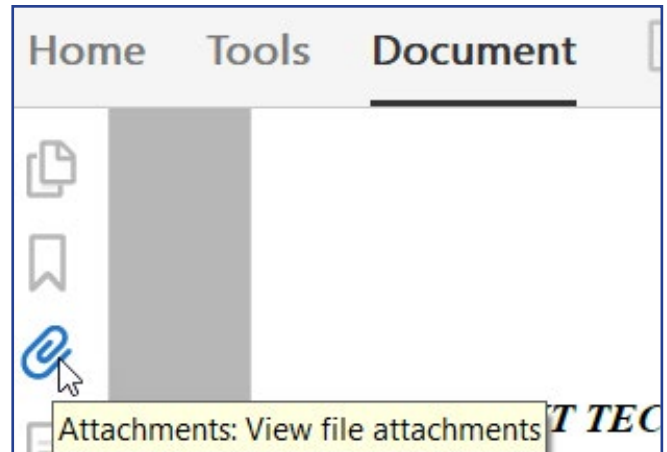


Appendix A | Final Application Preparations

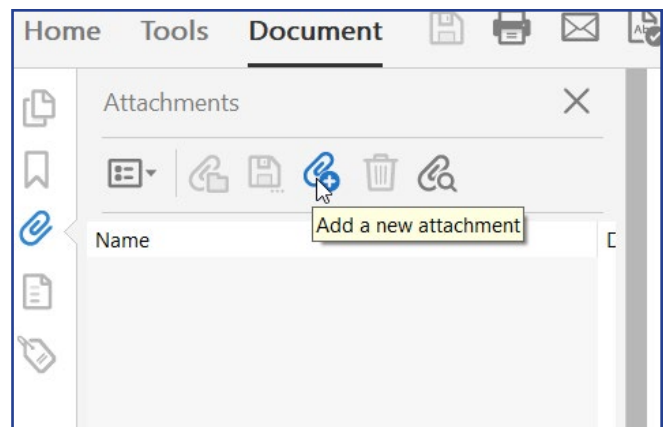
A.1 How to Attach Documents using Adobe Acrobat

Attach files to this PDF using the Acrobat attachment feature. Send your application with all the attachments in one file. Use the naming convention described in paragraph [A.2](#) for your file name. Attach document with Acrobat as follows:

1. Click the Paper Clip icon  in the left margin of this application guide:










2. To Add Files click the  and browse for the file attachments on your computer.

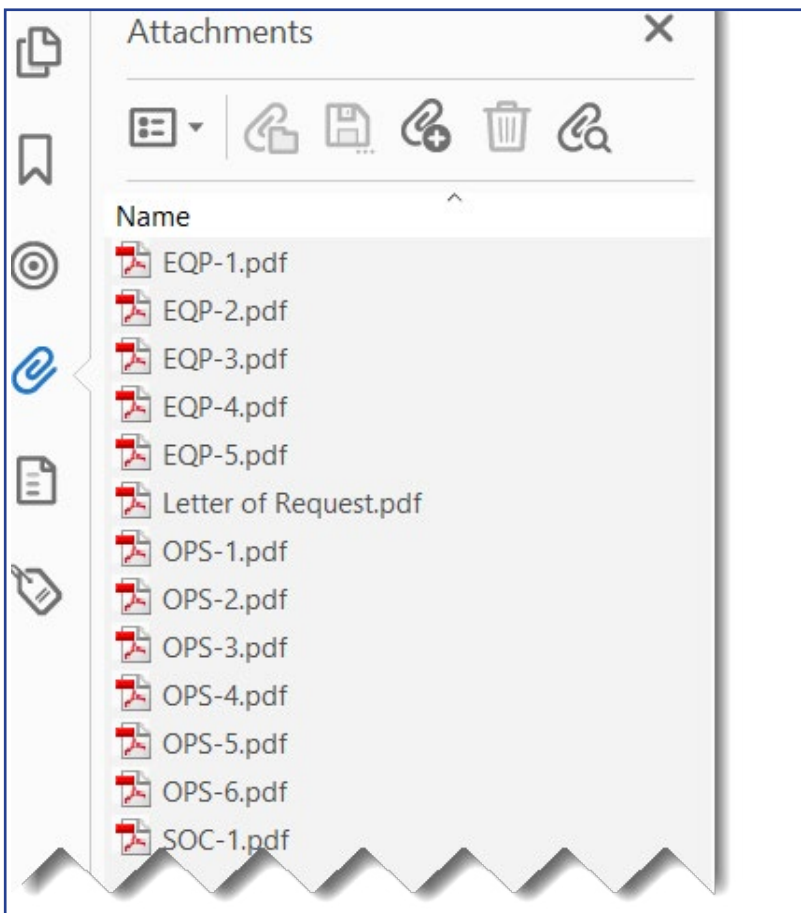




3. Click on the files to attach to your application.

Name	Date modified	Type
 EQP-1	9/25/2025 2:49 PM	Adobe A
 EQP-2	9/25/2025 2:49 PM	Adobe A
 EQP-3	9/25/2025 2:49 PM	Adobe A
 EQP-4	9/25/2025 2:49 PM	Adobe A
 EQP-5	9/25/2025 2:49 PM	Adobe A
 Letter of Request	9/25/2025 2:49 PM	Adobe A
 OPS-1	9/25/2025 2:49 PM	Adobe A

4. Make sure you have added all the necessary files including any addendum attachments needed for the Op-Specs/MSpecs/part 125 LOAs which are to be included in your application.





A.2 Naming Convention

Use the following file naming convention when submitting this document for B036, B037, B038 and B039 applications.

Part_#_Oceanic_and_Remote_AG_Company/Name_Date_(XX_XX_XXXX)_Version_Number_(VX)

Example: Part_121_Oceanic_and_Remote_AG_ABCAirlines_05_05_2025_V2

Use the following file naming convention when submitting your attachments.

A.3 Application Checklists

B036 Checklist:

(Also, for adding a different MMS aircraft or not identically equipped to existing B036)

Ensure all the applicable items have been completed.

Attach your letter or email of request along with all the documents below for your PI.

[Section 2](#), Application Form,

[Section 3](#), Aircraft Eligibility Attachments,

[Section 4](#), Operational Attachments,

[Section 5](#), Training Attachments, and

[Section 6](#), Additional Attachments/Information.

Attached files to this application guide and use the naming convention described in this appendix.

B037, B038, B039 and B041 Checklist:

[Section 2](#), Application Form,

[Section 4](#), Operational Attachment, [4.4](#) as appropriate, and

[Section 5](#), Training Attachments, [TNG-2](#) or [TNG-3](#) as appropriate.

Application Submission:

Submit the completed application to the Flight Standards District Office in your region or send it to your principal inspector. Applications may be submitted electronically via email or through the FAA's [Safety Assurance System \(SAS\) External Portal](#). For access to SAS external portal click **Sign up for SAS** under the login button.

Note: Submitting applications via the former Operational Approval Portal System (OAPS) is no longer permitted. OAPS has been integrated into SAS and is on the SAS menu as Operations Approval (OAPS) in Module 1.

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Appendix B: Definitions and Acronyms

B.1 Definitions

A

Air Traffic Control (ATC) Service:

1. Area Control Service,
2. Approach Control Service, and
3. Airport Control Service.

Area Navigation (RNAV). A method of navigation (formerly known as “Random Navigation”) which permits aircraft operation on any desired flightpath within the coverage of ground- or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of these.

Area Navigation (RNAV) System. A navigation system which permits aircraft operation on any desired flightpath within the coverage of ground or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of these. A RNAV system may be included as part of a flight management system (FMS).

D

Distance Measuring Equipment (DME) DME/DME (D/D) RNAV. Refers to navigation using DME ranging from at least two DME facilities to determine position.

DME/DME/Inertial (D/D/I) RNAV. Refers to use of DME/DME positioning augmented by integration with an aircraft’s inertial navigation system(s) to support RNAV or RNP operations. D/D/I can provide more flexibility and continuity than D/D positioning supporting continuous RNAV operations where gaps in DME facility availability exist or when GPS is lost (for any reason). Aircraft with advanced multi-sensor RNP capability often include a higher level of D/D/I capability through use of multiple DME facilities, integration with multiple inertial navigation systems and complex filtering (e.g., Kalman filtering). These aircraft can support continuous RNAV and RNP operations when GPS is lost (for any reason).

F

Fault Detection and Exclusion (FDE). A software algorithm a GNSS sensor requires that automatically detects and excludes a faulty satellite from the GNSS position solution when a sufficient number of satellites are available.

Fixed Radius Transition (FRT). An arc at a constant (specified) radius that is tangent to both the inbound and outbound en route path segments at an en route fix. FRT apply during en route operations on published RNP routes and serve to provide aircraft a means to connect from one route to a new route at a transition fix via a published FRT. Like RF turns, FRTs may offer reliable, repeatable paths for all aircraft.



Flight Management System (FMS). An integrated system, consisting of airborne sensor, receiver and computer with both navigation and aircraft performance databases, which provides performance and area navigation guidance to a display and automatic flight control system (AFCS).

Flight Technical Error (FTE) or Path Steering Error (PSE). Accuracy with which an aircraft is controlled, as measured by the indicated aircraft position with respect to the indicated command or desired position. It does not account for procedural blunder errors.

G

Global Navigation Satellite System (GNSS). GNSS is a generic term for a worldwide position, velocity, and time determination system, which includes one or more satellite constellations, aircraft receivers, and system integrity monitoring. GNSS includes GPS, Satellite-based Augmentation Systems (SBAS) such as the wide area augmentation system (WAAS), Ground Based Augmentation System (GBAS). Global Orbiting Navigation Satellite System (GLONASS), Galileo, and any other satellite navigation system approved for civil use. GNSS can be augmented as necessary to support the Required Navigation Performance (RNP) for the actual phase of operation.

Global Positioning System (GPS). GPS is a U.S. satellite-based radio navigation system that provides a positioning service anywhere in the world. The service provided by GPS for civil use is defined in the GPS Standard Positioning System Signal Specification. GPS is the U.S. core GNSS satellite constellation providing space-based positioning, velocity, and time. GPS is composed of space, control, and user elements.

H

High Remote Continental. High remote continental airspace is defined as airspace above terrain where line-of-sight communications, independent surveillance and reliable ground-based NAVAIDs are not available. Controllers provide air traffic services utilizing procedural control and procedural separation.

L

Long-Range Navigation System (LRNS). By definition, an LRNS includes an electronic navigation unit that computes for the pilots steering commands to fly the intended route of flight. In many transport aircraft, the electronic navigation unit is the flight management computer (FMC). Your airplane flight manual may refer to the electronic navigation unit by a different term. An LRNS also needs a navigation sensor such as an inertial navigation system and/or a global positioning system.

N

Navigation Specification (Nav Spec). A set of aircraft and aircrew requirements needed to support PBN operations within a defined airspace. There are two kinds of Nav Spec:

1. RNAV specification. A Nav Spec based on RNAV that does not include the requirement for onboard performance monitoring and alerting, designated by the prefix RNAV (e.g., RNAV 5, RNAV 1).
2. RNP specification. A Nav Spec based on RNAV that includes the requirement for onboard performance monitoring and alerting, designated by the prefix RNP (e.g., RNP 4, RNP APCH).

Navigation System Error (NSE). NSE or Position Estimation Error (PEE) is the difference between the true position and estimated position.



O

Oceanic. Oceanic airspace is defined as international airspace over oceans where separation and procedures are in accordance with the International Civil Aviation Organization (ICAO). Responsibility for the provision of ATC service in this airspace is delegated to various countries.

Offshore. Offshore airspace is defined by Title 14 of the Code of Federal Regulations (14 CFR) part 71, §§ 71.31 and 71.71. It is designated in international airspace within areas of domestic radio navigational signal or ATC radar coverage, and within which domestic ATC procedures are applied.

P

Performance-Based Navigation (PBN). RNAV-based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure (IAP), or in a designated airspace.

R

Receiver Autonomous Integrity Monitoring (RAIM). An algorithm that verifies the integrity of the position output using GPS measurements, or GPS measurements and barometric aiding.

Required Navigation Performance (RNP). RNP is a statement of the 95 percent navigation accuracy performance that meets a specified value for a particular phase of flight or flight segment and incorporates associated onboard performance monitoring and alerting features to notify the pilot when the RNP for a particular phase or segment of a flight is not being met.

RNAV. See Area Navigation (RNAV) above.

RNP/RNAV Procedure. An RNP/RNAV Procedure includes instrument departure procedures (DP), standard terminal arrivals (STAR), and instrument approaches based on PBN.

RNP Value. The RNP value designates the 95 percent LNAV performance (in NM) and the related monitoring and alerting requirements associated with an RNP instrument flight operation or a particular segment of that instrument flight.

RNP System. An RNAV system which supports onboard performance monitoring and alerting.

W

Waypoints. A waypoint is a predetermined geographical position that is defined in terms of latitude/longitude coordinates. Waypoints may be a simple named point in space or associated with existing NAVAIDs, intersections, or fixes. A waypoint is most often used to indicate a change in direction, speed, or altitude along the desired path. RNAV procedures make use of both flyover and flyby waypoints.



B.2 Acronyms

Acronym	Meaning
1HRF	One-Hour Reliable Fix Operations
14 CFR	Title 14 of the Code of Federal Regulations
91K	Part 91 Subpart K (14 CFR)
AC	Advisory Circular
AEG	Aircraft Evaluation Group
AFCS	Automatic Flight Control System
AFM	Airplane Flight Manual
AFMS	Airplane Flight Manual Supplement
AGL	Above Ground Level
AIP	Aeronautical Information Publication
AIR	Aircraft Certification Service
AMC	Acceptable Means of Compliance
ANP	Actual Navigation Performance
A RNP	Advanced Required Navigation Performance
ATC	Air Traffic Control
CAMP	Continuous Airworthiness Maintenance Program
CEP	Central East Pacific
CHDO	Certificate Holding District Office
CMO	Certificate Management Office
CPDLC	Controller Pilot Data Link Communications
CTA/FIR	Control Area/Flight Information Region
DME	Distance Measuring Equipment
DP	Departure Procedure
DTK	Desired Track
FAA	Federal Aviation Administration
FDE	Fault Detection and Exclusion
FGS	Flight Guidance System
FIR	Flight Information Region
FMC	Flight Management Computer
FMS	Flight Management System
FRT	Fixed Radius Transition
FS	Flight Standards Service
FSDO	Flight Standards District Office
GNSS	Global Navigation Satellite System
GOM	General Operations Manual
GPS	Global Positioning System
HLA	High Level Airspace



Acronym	Meaning
ICAO	International Civil Aviation Organization
INS	Inertial Navigation System
IOM	International Operations Manual
IRS	Inertial Reference System
IRU	Inertial Reference Unit
LNAV	Lateral Navigation
LOA	Letter of Authorization
LRNS	Long Range Navigation System
MEL	Minimum Equipment List
MMS	Make, Model, Series
MSpec	Management Specification
Nav Spec	Navigation Specification
NM	Nautical Mile
NOPAC	North Pacific
NOTAM	Notice to Airmen
NSE	Navigation System Error
OEM	Original Equipment Manufacturer
OpSpec	Operation Specification
PBN	Performance Based Navigation
PF	Pilot Flying
PI	Principal Inspector
POH	Pilot's Operating Handbook
POI	Principal Operations Inspector
RAIM	Receiver Autonomous Integrity Monitoring
RNAV	Area Navigation
RNP	Required Navigation Performance
SAO	Special Areas of Operation
SB	Service Bulletin
SBAS	Satellite Based Augmentation System
SIS	Signal in Space
SLOP	Strategic Lateral Offset Procedure
SOC	Statement of Compliance
STC	Supplemental Type Certificate
TC	Type Certificate
TOAC	Time of Arrival Control
TSE	Total System Error
TSO	Technical Standard Order
WGS	World Geodetic System

Please Provide Feedback

In our continuing effort to improve the quality of service we provide to you, the Federal Aviation Administration would appreciate any feedback you may have on this guide and how we can improve it:



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