

Operator Application to Conduct *Oceanic and Remote Operations, B036*

Operation Specification/Management Specification/Letter of Authorization B036

Welcome!

This application was developed to provide an organized method for submitting required content after the B036 pre-application meeting. OpSpec/MSpec/LOA B036, Oceanic and Remote Continental Navigation using Multiple Long-Range Navigation Systems (M-LRNS) may be obtained by submitting all the requested information in this package. If carefully followed, the application process becomes streamlined and efficient.

The over arching guidance for RNP 2, RNP 4, and RNP 10 approval is provided in [Advisory Circular \(AC\) 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 90-105() should be considered the “source document” for RNP approvals.

Begin





Operator Application to Conduct Oceanic and Remote Operations

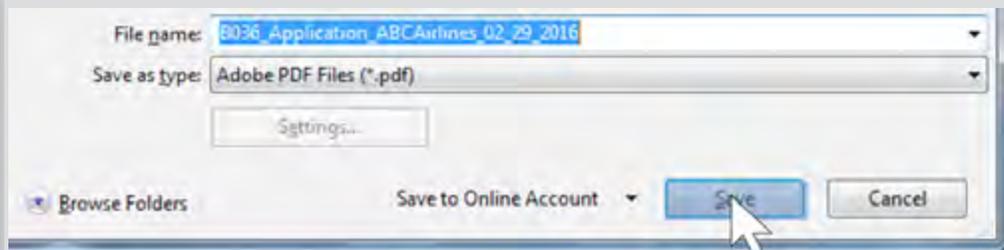
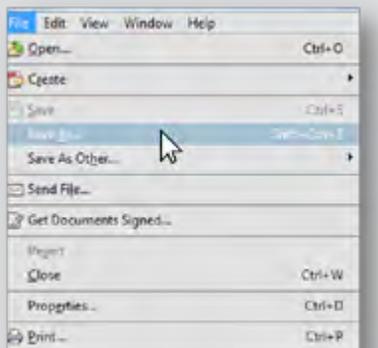
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Instructions

1. Certificate holders, operators, and program managers should consider scheduling a pre-application meeting or teleconference with the Certificate Holding District Office (CHDO), Certificate Management Office (CMO), or the Flight Standards District Office (FSDO) as appropriate.
2. Applicants should respond to each item of this application and address specific items disclosed in the pre-application meeting. The use of highlights, outlines, tables and/or hyperlinks for your supporting documentation (attachments) will greatly reduce the application process time. The application and attachments should be submitted in a PDF format.
3. 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).
4. All fields framed in red are mandatory, if applicable.
5. For the attachments, please include only the applicable page or paragraph to show compliance. Attaching irrelevant documentation other than the requested page/paragraph to show compliance will only delay the application process.

File Naming Convention:

A file naming convention is used for the attachments. Please use the instructions below:



1 Select "Save As.." under File Menu.

2 Use the following naming convention with underlines "_" as shown:

B036_Application_Your_Company/Name_Date(XX_XX_XXXX)_
Version_Number_(VX)
Example: B036_Application_ABCAirlines_02_29_2016_V2

One file is preferred (use Adobe Acrobat to combine application and attachments as one file). However, if unable to combine all files into one, then send each attachment with the following naming convention: B036_Attachment_Number_Your_Company/Name_Date(XX_XX_XXXX)_Version_Number(VX)

Example: B036_Attachment 2_ABCAirlines_02_29_2016_V1.



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Letter of Request

Company/Name:

Federal Aviation Administration (FAA)

PI Information from Pre-Application Meeting

Principal Inspector (PI) First Name:

Principal Inspector (PI) Last Name:

PI Email Address:

PI Phone:

Dear Sir/Madam:

Please accept this letter as our formal application letter to apply for OpSpec/MSpec/LOA B036, *Oceanic and Remote Continental Navigation Using Multiple Long-Range Navigation Systems (M-LRNS)*, of Title 14 of the Code of Federal Regulations for the following navigation specifications:

We are sending this formal application and associated attachments electronically in a PDF format for your review and consideration. Our planned date to commence oceanic and/or remote operations with M-LRNS is on or about (mm/dd/yyyy).

Our primary business location is:

Street Address:

Suite:

City:

State:

Zip Code:

Please refer to the information provided in this application package and the following attachments:

- Attachment 1, [RNP Documentation, Page 12](#)
- Attachment 2, [Documented Multiple LRNS, Page 12](#)
- Attachment 3, [Documented LRNS Maintenance and MEL/MMEL, Page 13](#)
- Attachment 4, [Operational Documentation, Page 13](#)
- Attachment 5, [Training Documentation, Page 14](#)
- Attachment 6, [Items Unique to Operator or POI Requested Items, Page 15](#)
- Attachment 7, [Additional Aircraft, Page 15](#)
- Attachment 8, [Sample Oceanic Flight Plan, Page 16](#)

Sincerely,



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A

*Fill out form below and periodically save your work.
Send the form with PDF attachments to the Principal Inspector (PI)*

Operator Information:

Date: *mm/dd/yyyy*
Company/Name: Identifier:
14 CFR Part:
Street Address: Suite:
City: State: Zip Code:

Contact Information: *Responsible person for oceanic and remote operations*

POC First Name:
POC Last Name:
Office Phone:
Cell Phone:
Email:



Operation Description and other Authorizations:

Briefly describe your operation as it relates to oceanic and remote airspace. Additionally, include any other possible Operation Specifications/Management Specifications/Letter of Authorizations that you intend to obtain.



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B Single Aircraft *(see Part C for Multiple Aircraft)*

Aircraft Information:

If applying for approval of a single aircraft, select the “Single Aircraft” option and fill out Section B. If applying for multiple aircraft, select “Multiple Aircraft” and fill out Section C.”

Single Aircraft:

Multiple Aircraft: *If multiple aircraft or fleet, go to Part C under Multiple Aircraft or Fleet.*

Location of Aircraft



Airport:

Identifier:

Street Address:

City:

State:

Zip Code:

Make:

Country:

Model:

Serial Number:

Registration:

(“N” Number)

Capability of Long-Range Navigation Systems (LRNS):

Select the documented navigation RNP capability for multiple long-range navigation systems.

RNP 2

RNP 4

RNP 10

Additional Capabilities: *Check all documented capabilities below (See AC 90-105()).*

Advanced RNP (A-RNP): *A-RNP must be capable of scalability, Radius to Fix (RF), and parallel offset.*

Fixed Radius Transition (FRT)

Note: FRT and TOAC are currently not fully implemented.

Time of Arrival Control (TOAC)

Flight Director(s)/Auto Pilot(s): *Check all documented capabilities below.*

Flight Director(s)

(Number Installed and Operational)

Autopilot(s)



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Single Aircraft (Continued) *(For multiple aircraft, skip this page and go to [Part C](#).)*

Integrated and non-integrated Long-Range Navigation Systems LRNS:

Please indicate whether your LRNS is an integrated system (i.e. uses an Flight Management Computer (FMC) with navigation sensor inputs) or stand alone systems not integrated with an FMC.

Yes No

Is your navigation systems integrated with an FMC?

Integrated LRNS:

Provide the make and model of the Flight Management Computer (FMC) and place checks next to the long range navigation system(s) that are installed and operational. If the LRNS is an inertial system, include the documented time limit.

FMC Make:

FMC Model:

FMC Make:

FMC Model:

FMC Make:

FMC Model:

<i>LRNS Sensor Input</i>	<i>Integrated with FMC</i>	<i>Number Installed</i>	<i>Time Limit</i>
--------------------------	----------------------------	-------------------------	-------------------

GNSS

ADIRU/IRU/INS

DME/DME

Non-Integrated Long-Range Navigation Systems (LRNS)

This section is only required for non-integrated systems.

GNSS System(s)

GNSS Make

Number Installed:

GNSS Model:



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C Non-Integrated Long-Range Navigation Systems (LRNS) (Continued)

Inertial Navigation System(s)

ADIRU/IRU/INS Make:

Number Installed:

ADIRU/IRU/INS Model:

Time Limit:

DME/DME System(s)

DME/DME Make:

Number Installed

DME/DME Model:

Multiple Aircraft

This section allows data for 15 aircraft. If applying for more than 15 aircraft, create additional tables with column headings as in Section C and add them as [Attachment 7](#). See [Attachment 7](#) for adding additional aircraft.

Fleet Navigation Capability:

Select the documented navigation capability for multiple LRNS (RNP 2, RNP 4, or RNP 10.). The aircraft registration number is the "N number" and once entered here will appear automatically on the remaining aircraft tables in this application.

	Aircraft Make	Aircraft Model	Aircraft Serial Number	Navigation Capability	Aircraft Registration
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					



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Multiple Aircraft Capabilities:

Please select the number of flight directors and/or autopilots installed and operational. Place a check mark if each aircraft is documented as Advanced RNP (A-RNP), FRT, and TOAC. A-RNP for the United States means the aircraft has the documented capability to perform scalability, radius to fix (RF), and parallel offset (see [AC 90-105](#) ()).

	Aircraft Registration	Flight Directors # Installed	Auto Pilot # Installed	A-RNP	FRT	TOAC
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

Integrated or non-integrated Long-Range Navigation Systems LRNS:

Please indicate whether your LRNS is an integrated system (i.e. uses an Flight Management Computer (FMC) with navigation sensor inputs) or independent systems non-integrated with an FMC.

Yes No

Do you have an FMC integrated navigation system?

For FMC navigation integrated systems, go to the next page, [Section D](#). For non-FMC integrated navigation systems (stand-alone systems), go to [Section E](#).



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D Flight Management Computer(s)(FMC):

	Aircraft Registration	FMC Make	FMC Model	Number Installed
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

Fleet FMC Navigation Sensor Inputs and Number Installed and Operational:

	Aircraft Registration	GNSS	Number Installed	ADIRU/IRU/INS	Number Installed	Time Limit	DME/DME	Number Installed
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								



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E

Aircraft with Non-integrated Navigation Systems (Stand-Alone Systems)

GNSS: Non-integrated with FMC *(If your aircraft are FMC integrated, go to [Section F](#))*

	Aircraft Registration	GNSS Make	GNSS Model	Number Installed
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				



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Inertial (ADIRU, IRU, INS): Non-integrated with FMC

	Aircraft Registration	Inertial Make	Inertial Model	Number Installed	Time Limit
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

DME/DME: Non-integrated with FMC

	Aircraft Registration	DME/DME Make	DME/DME Model	Number Installed
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				



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Attachments

F

Attachments can be screen captures from source documentation and attached as a PDF file. Please only capture what is necessary to provide documented statements to satisfy each requirement.

Attachment 1: RNP Documentation

Include the following as “Attachment 1” in a PDF format and email with this application. Please use highlights, outlines, hyperlinks, or tables to clarify the required information. Detailed information for RNP 2, RNP 4, and RNP 10 is available in [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](#), Appendices E, F, and G respectively. Label or use a cover sheet as “Attachment 1: RNP Documentation”.

Complete

Attach a page/paragraph showing a Statement of Compliance (SOC) for oceanic and remote RNP 2, RNP 4, or RNP 10 criteria from your Airplane Flight Manual (AFM), Airplane Flight Manual Supplement (AFMS), pilot’s operating handbook (POH), or avionics operating manual. This statement may also be provided from the manufacturer. All documentation for RNP 2, RNP 4, or RNP 10 must meet the criteria in [AC 20-138\(\)](#), [Airworthiness Approval of Positioning and Navigation Systems](#) and the performance and functional requirements of [AC 90-105\(\)](#).

Attachment 2: Documented Multiple LRNS

Include the following as “Attachment 2” in a PDF format and email with this application. Please use highlights, outlines, hyperlinks, or tables to clarify the required information. Detailed information for RNP 2, RNP 4, and RNP 10 is available in [AC 90-105A](#), Appendices E, F, and G respectively. Label or use a cover sheet as “Attachment 2: Documented Multiple LRNS”.

Complete

Attach a page/paragraph(s) for each aircraft documenting the number and type of LRNS systems. For each RNP type, the following are the LRNS requirements to operate within oceanic and remote airspace:

- **RNP 2:** At least 2 Independent GNSS.
- **RNP 4:** At least 2 LRNS with one of those systems a GNSS as either stand-alone or as one of the sensors in a multisensor system.
- **RNP 10:** At least 2 LRNS in any combination of:
 - INS approved for oceanic and remote navigation.
 - FMC/navigation sensor combination (or equivalent); and
 - GNSS navigation system approved for oceanic and remote navigation



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Note 1: If LRNS includes an inertial type system, provide documentation (page/paragraph) on the inertial time limit from the aircraft's airworthiness documentation (i.e. AFM/AFMS).

Note 2: Aircraft previously certified and documented under FAA Order 8400.33 remain valid.

Attachment 3: Documented LRNS Maintenance and MEL/MMEL

Include the following as "Attachment 3" in a PDF format and email with this application. Please use highlights, outlines, hyperlinks, or tables to clarify the required information. Detailed information for RNP 2, RNP 4, and RNP 10 is available in [AC 90-105\(\)](#), Appendices E, F, and G respectively. Label or use a cover sheet as "Attachment 3: Documented LRNS Maintenance and MEL/MMEL".

Complete

Attach page/paragraph(s) documenting established maintenance procedures for all LRNS intended for use in oceanic and remote airspace.

Attach MEL/MMEL page/paragraph(s) that specifies dispatch conditions for oceanic and remote RNP operations.

Note: Include sections 23 and 34 of the MEL.

Attachment 4: Operational Documentation

Include the following as "Attachment 4" in a PDF format and email with this application. Please use highlights, outlines, hyperlinks, or tables to clarify the required information. Detailed information for RNP 2, RNP 4, and RNP 10 is available in [AC 90-105\(\)](#), Appendices E, F, and G respectively. Label or use a cover sheet as "Attachment 4: Operational Documentation". Attach pages/paragraph(s) from your operational manuals that cover the following information and/or procedures:

Complete

Oceanic and remote flight planning and master flight plan

Notices to Airman (NOTAMS)

Preflight of LRNS

Fault Detection and Exclusion (FDE) Prediction

Database Integrity (See AC 20-153(), Acceptance of Aeronautical Data Processes and Associated Databases).

Route confirmation and waypoint entry procedures

Navigation procedures including procedures for cross-checking and degradation

Lateral and vertical deviation monitoring/compliance



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Attachment 4: Operational Documentation (Continued)

Checklist(s) for oceanic and remote navigation systems and operations
Confirming the correct RNP value for the airspace requirements is set
Procedures/contingencies for navigation equipment failure
Emergency and contingency procedures
Oceanic checklist ([Sample Oceanic Checklist](#))
Master time source
Clearance-Flight Information Region (FIR) differences
Navigation accuracy check
RVSM checks
Approaching, overhead, and post-position waypoint checks
Position report—estimated time of arrival (ETA) tolerance

Attachment 5: Training Documentation

Include the following as “Attachment 5” in a PDF format and email with this application. Please use highlights, outlines, hyperlinks, or tables to clarify the required information. Detailed information for RNP 2, RNP 4, and RNP 10 is available in [AC 90-105\(\)](#), Appendices E, F, and G respectively. Label or use a cover sheet as “Attachment 5: Training Documentation”.

Complete

Attach page/paragraph(s) from your training curriculum documenting a program that includes the use of long-range navigation (LRN) equipment and procedures. Training curricula should be in accordance with [AC 90-105\(\)](#), §§ [91.3](#), [91.703\(a\)](#)(1) and (2) and ICAO [Annex 2](#) (Rules of the Air), paragraph 2.3.2 (Pre-flight action). Flight crews are responsible for policies and procedures in areas of operations where flights are conducted.

Note: Part 91 operators should be knowledgeable with the procedures and operations associated with the use of Required Navigation Performance (RNP) systems and are not required to have a training program or curricula.



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Attachment 6: Items Unique to Operator or POI Requested Items (Pre-Application Meeting)

Include the following as “Attachment 6” in a PDF format and email with this application. Please use highlights, outlines, hyperlinks, or tables to clarify the required information. Detailed information for RNP 2, RNP 4, and RNP 10 is available in [AC 90-105\(\)](#), Appendices E, F, and G respectively. Label or use a cover sheet as “Attachment 6: Unique to Operator or POI Requested Items”.

Attach a page/paragraph of any additional information requested from your PI during the pre-application meeting or if applicable, describe below anything you deem unique to your operation regarding oceanic and remote operations.

There are no additional items requested during the pre-application meeting or prior to submitting this application and there are no unique operational items to add.

In the space below, describe any issue(s) unique to your operation or state “N/A”.

Attachment 7: Additional Aircraft

Appendix 7 is reserved for additional space to include more than 15 aircraft. Use the same column headings of the tables for multiple aircraft as in Section C. Label or use a cover sheet as “Attachment 7: Additional Aircraft”.

There no aircraft to attach as Attachment 8.

Please see Attachment 8 for additional aircraft.



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Attachment 8: Sample Oceanic Flight Plan

Include the following as “**Attachment 8**” in a PDF format and email with this application. Label or use a cover sheet with the title: “Attachment 8: Sample Flight Plan (FAA form 7233-4) and an Operational Flight Plan”.

Submit a sample flight plan ([FAA form 7233-4, International Flight Plan](#)) for an oceanic crossing using RNP 2, RNP 4, or RNP 10 as applicable. Also, include a crew operational flight plan (OFP).

Areas/Routes of Operation

I have OpSpec/MSpec/LOA B050

I do not have OpSpec/MSpec/LOA B050

Applying for B050 with B036

Specific B050 areas and routes of operation:

Specific areas and routes of intended operation:

Document Review:

As part of the application, the following documents should be reviewed by operators, pilots and dispatchers. Check each as reviewed or will be reviewed during training.

FAA Documents

[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](#)

[Aeronautical Information Manual \(AIM\), Part 2 En Route, Oceanic Operations](#)

[U.S. Aeronautical Information Publication \(AIP\).](#)



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Document Review (Continued):

[AC 91-70\(\), Oceanic and Remote Airspace Operations](#)

Notices to Airman (NOTAM) ([U.S. Link](#))

[FAA chart supplements](#)

FAA Online Guides (*Supplemental aids with useful organized links*) *Download rather than Open.*

[North Atlantic Resource Guide for U.S. Operators](#)

[Pacific Resource Guide for U.S. Operators](#)

[National Airspace System Resource Guide for U.S. Operators](#)

[West Atlantic, Gulf of Mexico, Caribbean Resource Guide for U.S. Operators](#)

ICAO Documents

[ICAO Doc 7030, Regional Supplementary Procedures](#)

[ICAO Doc 9613, Performance-Based Navigation Manual](#)

[ICAO Doc 4444, Procedures for Air Navigation Services—ATM \(PANS-ATM\)](#)

[ICAO Annex 2, Rules of the Air](#)

[ICAO Annex 6, Operation of Aircraft \(Parts I, II, III as applicable\)](#)

[NAT Doc 007, North Atlantic Operations and Airspace Manual](#)

[NAT OPS Bulletin, 001, Sample Oceanic Checklists](#)

[NAT OPS Bulletin, 002. Oceanic Errors Safety Bulletin \(OESB\)](#)

Proposed Sample LOA and OpSpec/MSpec Documents

The following pages of this application provides a sample generic LOA (Part 91, Part 125M) and a sample generic OpSpec/MSpec (Parts 91K, 121, 135, 125). Please use the blanks on the appropriate LOA or OpSpec and fill a sample of your aircraft data. These documents do not represent the actual authorization and are only samples to aid the Principal Inspector when preparing the official documentation.

Electronic Signature of Responsible Person.



U.S. Department
of Transportation
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Administration

14 CFR Part

Letter of Authorization
Oceanic and Remote Required Navigation Performance (RNP) Using Multiple
Long-Range Navigation Systems (M-LRNS)

1. Authorization. The Operator listed at the bottom of this document is authorized to conduct operations within airspace designated as Required Navigation Performance (RNP) airspace in accordance with the limitations and provisions of this letter of authorization (LOA) and is subject to the conditions that all operations conducted within the designated RNP Airspace are in accordance with 14 CFR part 91, § 91.703, and the flight rules contained in International Civil Aviation Organization (ICAO) Annex 2.
2. Authorized Airplanes. The operator is authorized to use the airplanes listed in Table 1 below for operations in designated RNP airspace when the required equipment is operational and maintained in accordance with the airplane or equipment manufacturer’s recommendations.

Table 1 – Authorized Airplane(s), Equipment

Airplane M/M/S	Long-Range Navigation Systems (LRNS)		Navigation Specification(s)	Additional Capabilities	RNP Time Limits
	Manufacturer	Model			

3. Advanced RNP. As a minimum for A-RNP, the certificate holder must be qualified for the following advanced capabilities: scalability, Radius to Fix (RF), and parallel offset. Additionally, the A-RNP certificate holder must have adequate continuity for the operation.
5. Crew Training. In accordance with §§ 91.3 and 91.703(a)(1) and (2) and ICAO Annex 2 (Rules of the Air), paragraph 2.3.2 (Pre-flight action)

crews are responsible for policies and procedures in areas of operations where flights are conducted.

6. Special Limitations and Provisions. The operator must conduct all operations using Multiple Long-Range Navigation Systems (M-LRNS) in accordance with the following limitations and provisions:

a. The operator must conduct all Oceanic and Remote RNP operations so the airplane is continuously navigated to the degree of accuracy or RNP required for air traffic control (ATC). For areas where these accuracy and navigation performance standards have not been formally established, the LRNS must be used to continuously navigate the airplane so that the cross-track and/or the along-track errors will not exceed 25 nautical miles at any point along the flight plan route specified in the ATC clearance.

b. A LRNS fix may be substituted for a required en route ground facility when that facility is temporarily out of service, provided the approved navigation system has sufficient capability to navigate the airplane to the degree of accuracy or RNP required for ATC over that portion of the flight.

c. At RNP 2 flight release, at least two independent approved Global Navigation Satellite System (GNSS) navigation systems must be installed and operational; acceptable for primary means of Oceanic and Remote RNP operations.

(1) In the event of a predicted, continuous loss of appropriate level of fault detection of more than 5 minutes for any part of the RNP 2 operation, the operator should revise the flight plan (e.g., delay the departure or plan a different route).

d. At RNP 4 flight release, at least two independent LRNSs must be installed and operational with integrity such that the navigation system does not provide misleading information. The LRNSs must be fitted to the airplane and form part of the basis upon which RNP 4 operational approval is granted. GNSS can be used as a standalone navigation system, as one of the sensors in a multisensor system, or as part of an integrated GNSS/inertial system.

(1) Twenty-five minutes is the maximum allowable time for which fault detection and exclusion (FDE) capability is projected to be unavailable on any one event. This maximum outage time must be included as a condition of the RNP 4 operational approval. If predictions indicate that the maximum allowable FDE outage will be exceeded, the operation must be rescheduled to a time when FDE is available.

e. At RNP 10 flight release, at least one of the navigation system configurations listed below must be installed and operational:

(1) At least two independent inertial navigation systems (INS);

(2) At least two flight management systems (FMS)/navigation sensor combinations(or equivalent);

(3) At least two independent approved GPS navigation systems acceptable for primary means of Oceanic and Remote RNP operations in oce-

anic and remote areas;

(4) INS that use a mixed position solution (e.g., triple mix); or

(5) At least two approved independent LRNS from the list below:

- INS.
- FMS/navigation sensor combination (or equivalent).
- GPS navigation system approved for Oceanic and Remote RNP operations in oceanic and remote areas.

(6) Thirty-four minutes is the maximum allowable time for which FDE capability is projected to be unavailable on any one event. This maximum outage time must be included as a condition of the RNP 10 operational approval. If predictions indicate that the maximum allowable FDE outage will be exceeded, the operation must be rescheduled to a time when FDE is available.

7. Operation on Routes or in Areas where an RNP is Specified. Operations in areas or on routes where an RNP is specified must be conducted in accordance with the following limitations or provisions:

a. At flight release, one of the navigation system configurations listed in subparagraph 6 c, d, or e must be installed, operational, and (as listed in paragraph 2, Table 1) approved for the specified RNP (or better).

b. The operator must ensure that the airplane navigation system will provide the specified RNP for the planned flight time in the airspace and, if applicable, that the airplane will be operated in the RNP area of operation established using the RNP time limit listed in Table 1.

c. The ICAO flight plan filed with the Air Traffic Service Provider (ATSP) must show that the airplane and operator are approved for the specified RNP (or better).

8. Responsible Person. The Responsible Person for crew operations may be either an agent for service (who must be a U.S. citizen) or a person who is a U.S. citizen or holds a U.S. pilot certificate and accepts responsibility for complying with the stated regulations by signing this document.

a. If the Responsible Person signing this LOA relinquishes responsibility, this LOA becomes invalid.

b. The name, email address, and telephone number of the Responsible Person signing this LOA are listed in Table 2 below.

Table 2 – Responsible Person

Name	Email Address	Telephone

9. Deviations to RNP Requirements. The administrator may authorize an operator to deviate from RNP requirements for a specific individual flight in airspace where an RNP is specified if the ATSP determined that the airplane will not interfere with, or impose a burden on other operators. Operations conducted under such authority will be conducted in accordance with the following limitations and provisions:

- a. If fuel planning is predicated on en route climb to flight levels where RNP is normally required, an appropriate request must be coordinated in advance of the flight with the ATSP.
- b. The appropriate information blocks in the ICAO flight plan filed with the ATSP must show that the airplane is not approved for the specified RNP.
- c. At flight release, at least one of the navigation system configurations listed in subparagraph 6c, d, or e above must be installed and operational.



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14 CFR Part

Oceanic and Remote Required Navigation Performance (RNP) Operations Using Multiple Long-Range Navigation Systems (M-LRNS)

Operations Specifications

- a. The certificate holder is authorized to conduct Oceanic and Remote RNP operations using Multiple Long-Range Navigation Systems (M LRNS) only within the areas of en route operation where this paragraph is referenced in paragraph B050 of these operations specifications. Unless specifically authorized elsewhere in these operations specifications, the certificate holder must not conduct Oceanic and Remote RNP operations within Central East Pacific (CEP) Airspace, North Pacific (NOPAC) Airspace, North Atlantic Minimum Navigation Performance Specifications (NAT/MNPS) Airspace, or areas of magnetic unreliability (AMU). The certificate holder must conduct all Oceanic and Remote navigation operations using M-LRNS in accordance with the provisions of this paragraph.
- b. Authorized Airplanes. The certificate holder is authorized to use the airplanes listed in Table 1 below for operations in designated RNP airspace when the required equipment is operational and maintained in accordance with the airplane or equipment manufacturer’s recommendations.

Table 1 – Authorized Airplane(s), Equipment

Airplane M/M/S	Long-Range Navigation Systems (LRNS)		Navigation Specification(s)	Additional Capabilities	RNP Time Limits
	Manufacturer	Model			

- c. Advanced RNP. As a minimum for A-RNP, the certificate holder must be qualified for the following advanced capabilities: scalability, Radius to Fix (RF), and parallel offset. Additionally, the A-RNP certificate holder must have adequate continuity for the operation.
- d. Special Limitations and Provisions. The certificate holder must conduct all operations using M-LRNS in accordance with the following limitations and provisions:

(1) The certificate holder must conduct all Oceanic and Remote RNP operations so the airplane is continuously navigated to the degree of accuracy or RNP required for air traffic control (ATC). For areas where these accuracy and navigation performance standards have not been formally established, the LRNS must be used to continuously navigate the airplane so that the cross-track and/or the along-track errors will not exceed 25 nautical miles

at any point along the flight plan route specified in the ATC clearance.

(2) The navigation system must be operational as required by operations specifications B037 (CEP), B038 (NOPAC), B039 (NAT/MNPS), or B040 (AMU), as applicable.

(3) Except when navigation is being performed under the supervision of a check airman properly qualified for Oceanic and Remote RNP operations, the flightcrew must be qualified on the system being used in accordance with the certificate holder's approved training program. The flightcrew performing under the supervision of a check airman must have satisfactorily completed the ground school portion of that training program.

(4) Prior to entering any airspace requiring the use of a LRNS, for airplanes approved for operations using GPS equipage and/or DME/DME automatic updating, the systems must be confirmed to be functioning normally (no fault indications); for all other airplanes the position must be accurately fixed using airways navigation facilities or ATC radar.

(5) After exiting this airspace, the airplane position must be accurately fixed and the LRNS error must be determined and logged in accordance with the certificate holder's approved procedures. An arrival gate position check satisfies this requirement.

(6) For airplanes approved for operations and using GPS equipage and/or DME/DME automatic position updating, no exit position fix is required unless there is an indication of LRNS malfunction.

(7) A LRNS fix may be substituted for a required en route ground facility when that facility is temporarily out of service, provided the approved navigation system has sufficient capability to navigate the airplane to the degree of accuracy or RNP required for ATC over that portion of the flight.

(8) At RNP 2 dispatch, at least two independent approved Global Navigation Satellite System (GNSS) navigation systems must be installed and operational; acceptable for primary means of Oceanic and Remote RNP operations.

(a) In the event of a predicted, continuous loss of appropriate level of fault detection of more than 5 minutes for any part of the RNP 2 operation, the operator should revise the flight plan (e.g., delay the departure or plan a different route).

(9) At RNP 4 dispatch, at least two independent LRNSs must be installed and operational, with integrity such that the navigation system does

not provide misleading information. The LRNSs must be fitted to the airplane and form part of the basis upon which RNP 4 operational approval is granted. GNSS can be used as a standalone navigation system, as one of the sensors in a multisensor system, or as part of an integrated GNSS/inertial system.

(10) At RNP 10 dispatch, at least one of the navigation system configurations listed below must be installed and operational:

(a) At least two independent inertial navigation systems (INS);

(b) At least two flight management systems (FMS)/navigation sensor combinations

(or equivalent);

(c) At least two independent approved GPS navigation systems acceptable for primary means of Oceanic and Remote RNP operations in oceanic and remote areas;

(d) INS that use a mixed position solution (e.g., triple mix); or

(e) At least two approved independent LRNS from the list below:

- INS.
- FMS/navigation sensor combination (or equivalent).
- GPS navigation system approved for Oceanic and Remote navigation in oceanic and remote areas.

(11) Thirty-four minutes is the maximum allowable time for which FDE capability is projected to be unavailable on any one event. This maximum outage time must be included as a condition of the RNP 10 operational approval. If predictions indicate that the maximum allowable FDE outage will be exceeded, the operation must be rescheduled to a time when FDE is available.

e. Operation on Routes or in Areas where an RNP is Specified. Operations in areas or on routes where an RNP is specified must be conducted in accordance with the following limitations or provisions:

(1) At dispatch, one of the navigation system configurations listed in subparagraph d(8), (9), or (10) above must be installed, operational, and (as listed in paragraph b, Table 1) approved for the specified RNP (or better).

(2) The certificate holder must ensure that the airplane navigation system will provide the specified RNP for the planned flight time in the airspace and, if applicable, that the airplane will be operated in the RNP area of operation established using the RNP time limit listed in Table 1.

(3) The International Civil Aviation Organization (ICAO) flight plan filed with the Air Traffic Service Provider (ATSP) must show that the airplane and certificate holder are approved for the specified RNP (or better).

f. Deviations to RNP Requirements. The Administrator may authorize a certificate holder to deviate from RNP requirements in paragraph d for a

specific individual flight in airspace where an RNP is specified, if the ATSP determined that the airplane will not interfere with, or impose a burden on other operators. Operations conducted under such authority will be conducted in accordance with the following limitations and provisions:

- (1) If fuel planning is predicated on en route climb to flight levels where RNP is normally required, an appropriate request must be coordinated in advance of the flight with the ATSP.
- (2) The appropriate information blocks in the ICAO flight plan filed with the ATSP must show that the airplane is not approved for the specified RNP.
- (3) At dispatch, at least one of the navigation system configurations listed in subparagraph d(8), (9), or (10) above must be installed and operational.