



The North Atlantic



NAT

NAT Resources for U.S. Operators

Version 13.3
Reviewed Monthly

This resource document consolidates U.S. and International guidance for U.S. operators. Please direct questions regarding NAT operations to your Regional (AXX-220) NextGen Special Areas of Operation (SAO) Specialist. [Contact us](#) via email with your questions and comments pertaining to this PDF document.

Emphasis Items

Initiatives

NAT Airspace

References

Com / Nav / Surveillance (CNS)

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[NAT OPS Bulletin 2013-001, Information & Guidance for Data Link Oceanic Clearance Delivery in Santa Maria FIR](#)





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EMPHASIS ITEMS

NAT

Emphasis Items

- [NAT Home](#)
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Emphasis Items

[Implementation of 50 NM Longitudinal, 30 NM Longitudinal and 30 NM Lateral Separation Minima in the New York Oceanic Control Area \(CTA\) Flight Information Regional \(FIR\)](#)

(Select current edition and then go to Part 3, Section 2, International Oceanic Airspace Notices)

[NAT OPS Bulletin 2012-031: NAT Region Data Link Mandate](#)

[Failure to comply with ATC clearances in Oceanic Airspace - International NOTAMS](#) *(Select current edition and then go to Part 3, Section 2, International Oceanic Airspace Notices)*

[International NOTAMS](#) *(Select current edition and then go to Part 3, Section 2, International Oceanic Airspace Notices)*

[SAFO 13004](#)

Errors Associated with Oceanic Clearances

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

- Chapter 5: Oceanic ATC Clearances
- Chapter 8: MNPS Flight Operation and Navigation Procedures
- Chapter 14: Checklist for Pilots Operating in NAT MNPS Airspace
- Chapter 15: Guarding Against Complacency



Gross Navigation Errors (GNE), Large Height Deviations (LHD) and Erosion of Longitudinal Spacing

1. [NAT Oceanic Errors Safety Bulletin \(OESB\) 5 Oct 2012](#)
2. [NAT OPS Bulletin 2012-024 Sample Oceanic Checklist](#)



Strategic Lateral Offset Procedure (SLOP)

[ICAO Document 4444, Air Traffic Management](#)

[NAT Doc 007, North Atlantic Operations and Airspace Manual, Chapter 8.](#)

[Advisory Circular \(AC\) 91-70 \(current edition\)](#)

Oceanic and International Operations, Chapter 3, paragraph 3-9.



Contingency References

NAT DOC 007 North Atlantic Operations and Airspace Manual

- Chapter 6: Communication and Position Reporting Procedures
- Chapter 12: Procedures in the Event of Navigation System Degradation or Failure
- Chapter 13: Special Procedures for In-flight Contingencies
- Chapter 15: Guarding Against Complacency
- Chapter 16: The Prevention of Deviations from Track as a Result of Waypoint Insertion Errors

ICAO DOC 4444 PANS-ATM

- Chapter 15: Procedures Related To Emergencies, Communication Failure And Contingencies

ICAO Annex 2

- Chapter 3: General Rules



ICAO Flight Planning 2012

Effective 15 November 2012

FAA InFo 12018: 2012 ICAO Flight Plan Implementation

Recent Changes to ICAO Flight Plan

There are four sections of the ICAO flight plan that have changed:

- Item 7 (Aircraft Identification),
- Item 10 (Equipment),
- Item 15 (Route), and
- Item 18 (Other Information).

Numerous errors are occurring in items 10 and 18. Please review the guidance in Amendment 1.

Item 7: Aircraft identification digit limit

Contains no more than 7 alphanumeric characters without hyphens or symbols.

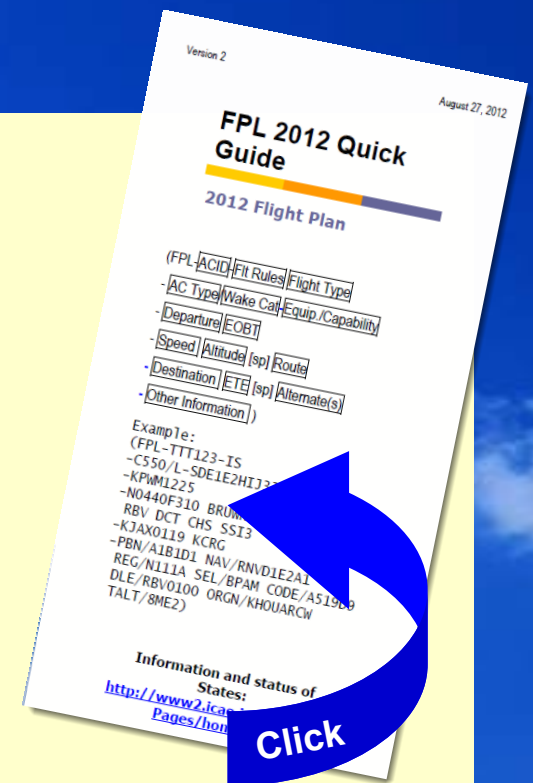
Item 10: Removal and addition of several codes

Operators and pilots need to be aware that when entering equipment and capabilities, they must have:

- Operational equipment on board the aircraft
- Equipment and capabilities commensurate with flight crew qualifications
- Where applicable, authorization from the appropriate authority

Item 18: Other information

There are several abbreviated indicators added to this section. [Please refer to: Amendment 1 to the Procedures for Air Navigation Services – Air Traffic Management, Fifteenth edition, Document 4444.](#)





NAT

INITIATIVES

NAT

Initiatives

- [NAT Home](#)
- [Current and Planned and Initiatives](#)



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Current and Planned Initiatives

Reference initiatives listed in Part 3 of [International Notices to Airmen](#)
(Please select the most current edition listed)

[NAT SPG Conclusion 47/3](#)

Encouragement for NAT Region Operators to seek RNP 4 approvals

Minimum Navigation Performance Specifications (MNPS) to Performance Based Navigation (PBN) Transition Plan

This [document](#) details the NAT transition plan from the Minimum Navigation Specifications (MNPS) to a Performance Based Navigation (PBN) environment in conformance with the ICAO policies and guidance specified in the PBN Manual.

NORTH ATLANTIC FANS 1/A DATA LINK MANDATE

[International Notices to Airmen](#)

(Select current edition and then go to Part 3, Section 2, International Oceanic Airspace Notices)

Phase I-effective 7 Feb 2013 applicable on 2 core tracks between FL360-390 as noted on the daily NAT Track Message.

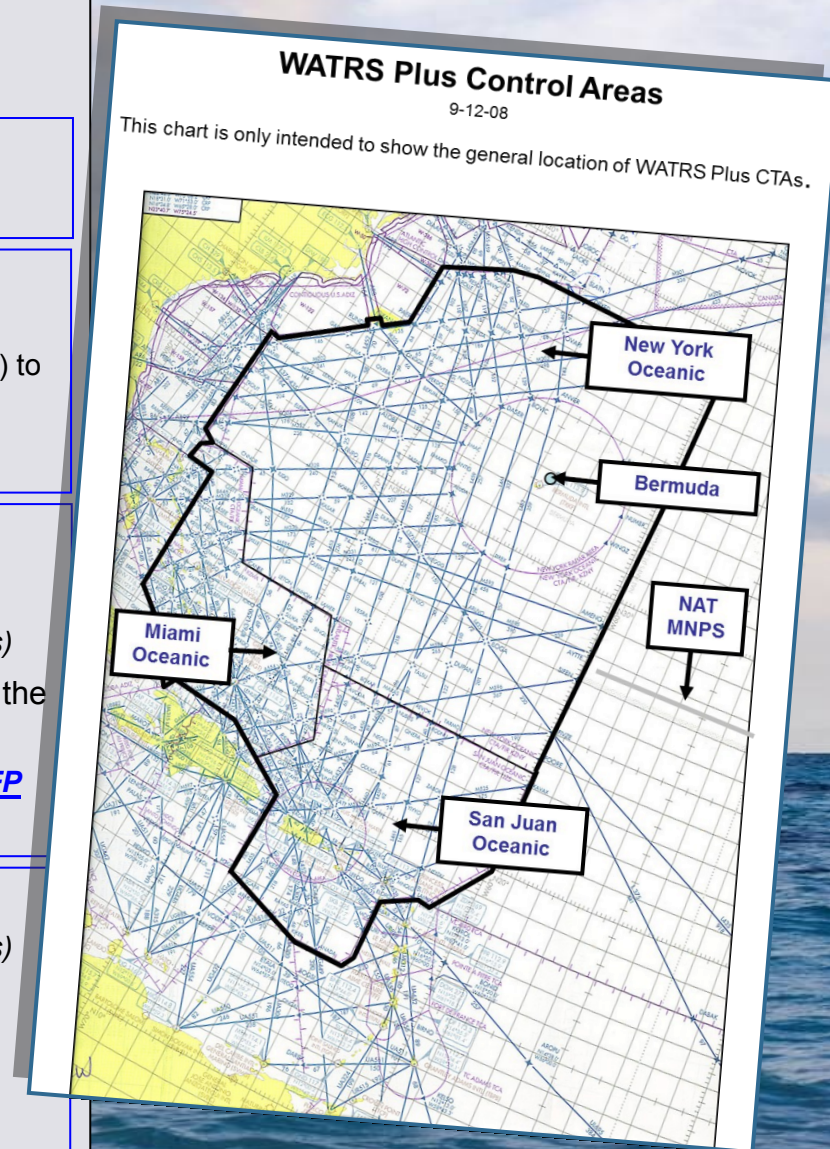
Operators are required to include CPDLC and ADS-C authorization in fields 10 & 18 of the [ICAO FP](#)

[WATRS PLUS OPERATIONAL POLICY AND PROCEDURES](#)

(Select current edition and then go to Part 3, Section 2, International Oceanic Airspace Notices)

This update includes:

- Information on the new ICAO FP 2012 implementation effective 15 Nov 2012 using applicable Communication/Navigation/Surveillance codes
- Reduced lateral separation on oceanic routes
- RNP 4 and RNP 10





NAT

AIRSPACE

NAT

Airspace

- [NAT Home](#)
- [North Atlantic](#)
- [Organized Track System](#)
- [Blue Spruce](#)



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The North Atlantic

NAT DOC 007

North Atlantic Operations and Airspace Manual

“The North Atlantic is the busiest oceanic airspace in the world. In 2011 approximately 450,000 flights crossed the North Atlantic. For the most part in the North Atlantic, Direct Controller Pilot Communications (DCPC) and ATS Surveillance are unavailable. Aircraft separation assurance and hence safety are nevertheless ensured by demanding the highest standards of horizontal and vertical navigation performance/accuracy and of operating discipline.”

NAT MNPSA - NORTH ATLANTIC MINIMUM NAVIGATION PERFORMANCE SPECIFICATIONS AIRSPACE

The vertical dimension of MNPS Airspace:

Between FL285 and FL420 (i.e. in terms of normally used cruising levels, from FL290 to FL410 inclusive).

The lateral dimensions include the following Control Areas (CTAs):

REYKJAVIK, SHANWICK, GANDER and SANTA MARIA OCEANIC plus the portion of NEW YORK OCEANIC which is North of 27°N but excluding the area which is west of 60°W & south of 38°30'N.

Specific dimensions are referenced in: [ICAO Regional Supplementary Procedures \(Doc.7030\) - NAT/RAC](#)

[RVSM in MNPS Airspace](#): Please reference Chapter 9 in NAT DOC 007

See ICAO Annex 6 (Secure Sign)



Organized Track System



Links

- [NAT Tracks - OTS](#)
- [NAT DOC 007: North Atlantic Operations and Airspace Manual](#)
(See Chapter 2)



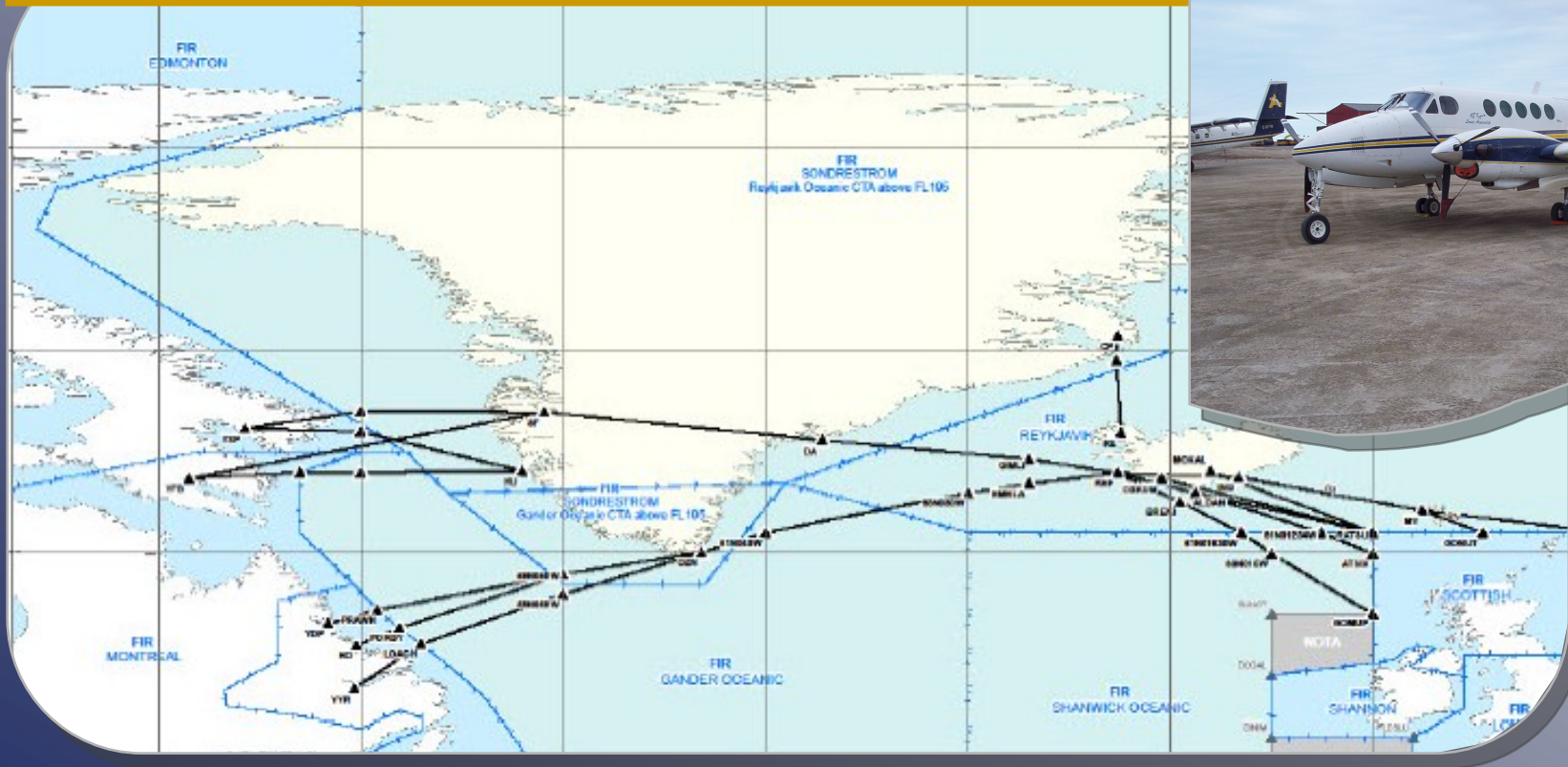
Blue Spruce Routes

Please refer to: [NAT DOC 007](#) , North Atlantic Operations and Airspace Manual

Chapter 1:Operational Approval and Aircraft System Requirements for Flight in the NAT MNPS Airspace

Chapter 3:Other Routes and Route Structures Within or Adjacent to NAT MNPS Airspace

Chapter 12: Procedures in the Event of Navigation System Degradation or Failure





NAT

REFERENCES

NAT

References

- [NAT Home](#)
- [14 CFR 91.703](#)
- United States of America
 - [OPSPEC Guidance](#)
 - [14 CFR Part 91](#)
 - [14 CFR Part 121](#)
 - [14 CFR Part 135](#)
 - [Advisory Circulars](#)
 - [TSO](#)
 - [FAA Orders](#)
 - [Job Aids](#)
- RNP
 - [Oceanic RNP](#)
 - [RNP 4 Separation](#)
 - [RNP 4 Accuracy](#)
 - [RNP 10 Separation](#)
 - [RNP 10 Accuracy](#)
- ICAO
 - [International Civil Aviation Organization](#)
 - [International Web Sources](#)



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14 CFR § 91.703
Operations of Civil Aircraft of U.S.
Registry Outside of the United States

- (a) Each person operating a civil aircraft of U.S. registry outside of the United States shall—(1) When over the high seas, comply with annex 2 (Rules of the Air) to the Convention on International Civil Aviation and with §§91.117 (c), 91.127, 91.129, and 91.131;(2) When within a foreign country, comply with the regulations relating to the flight and maneuver of aircraft there in force;(3) Except for §§91.117(a), 91.307(b), 91.309, 91.323, and 91.711, comply with this part so far as it is not inconsistent with applicable regulations of the foreign country where the aircraft is operated or annex 2 of the Convention on International Civil Aviation; and(4) When operating within airspace designated as Minimum Navigation Performance Specifications (MNPS) airspace, comply with §91.705. When operating within airspace designated as Reduced Vertical Separation Minimum (RVSM) airspace, comply with §91.706.(5) For aircraft subject to ICAO Annex 16, carry on board the aircraft documents that summarize the noise operating characteristics and certifications of the aircraft that demonstrate compliance with this part and part 36 of this chapter.
- (b) Annex 2 to the Convention on International Civil Aviation, Ninth Edition—July 1990, with Amendments through Amendment 32 effective February 19, 1996, to which reference is made in this part, is incorporated into this part and made a part hereof as provided in 5 U.S.C. §552 and pursuant to 1 CFR part 51. Annex 2 (including a complete historic file of changes thereto) is available for public inspection at the Rules Docket, AGC-200, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. In addition, Annex 2 may be purchased from the International Civil Aviation Organization (Attention: Distribution Officer), P.O. Box 400, Succursale, Place de L'Aviation Internationale, 1000 Sherbrooke Street West, Montreal, Quebec, Canada H3A 2R2.



United States of America

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



A056 Data Link Communications (CPDLC ADS-C)	B043 Special Fuel Reserves
A061 Use of Electronic Flight Bag	B044 Planned Re-dispatch/Re-release
A353 ADS-B Ops Outside the U.S.-Designated Airspace	B045 Extended Overwater Operation Using a Single Long Range Com
A354 Automatic Dependent Surveillance-Broadcast (ADS-B) In-Trail Procedure (ITP)	B046 RVSM
B029 Drift-down or Fuel Dumping	B050 China/Russia/WATRS/Gulf of Mexico
B030 IFR Navigation Using GPS/WAAS RNAV Systems	B054 Single Long Range Navigation Systems (S-LRNS)
B034 RNAV Class I	B055 North Polar Operations
B036 Multiple Long Range Navigation Systems (M-LRNS)	B342 ETOPS, Parts 121 and 135
B039 NAT MNPS	B344 ETOPS, Parts 121 and 135
B040 Areas of Magnetic Unreliability	C055 Alternate Airport IFR Weather Minimums (ETOPS)
B041 Twin Engine NAT Ops	C070 Airports Authorized for Scheduled Operations (ETOPS) Part 121





United States of America

14 CFR Part 91
inclusive but not limited to:

91.3	Responsibility and Authority of the PIC
91.117	Aircraft Speed
91.123	Compliance with ATC Clearances and Instructions
91.127	Operating on or in the vicinity of an airport in Class E airspace
91.129	Operations in Class D airspace
91.131	Operations in class B airspace
91.181	Course to be Flown
91.211	Supplemental Oxygen
91.511	Communication and navigation equipment for overwater operations
91.703	Operations of civil aircraft of U.S. registry outside of the United States
91.705	Operations within airspace designated as Minimum Navigation Performance Specification Airspace
91.706	Operations within airspace designated as Reduced Vertical Separation Minimum Airspace (See appendix G)
91.1019	Conducting tests and inspections
91.1041	Aircraft proving and validation tests
Appendix C	Operations in the North Atlantic (NAT) Minimum Navigation Performance Specifications
Appendix G	Operations in Reduced Vertical Separation Minimum (RVSM) Airspace



United States of America



14 CFR Part 121
inclusive but not limited to:

121.11	Rules applicable to operations in a foreign country
121.93	Route requirements: General
121.99	Communications facilities – domestic and flag operations
121.113	Area and route requirements: General
121.122	Communications facilities-supplemental operations
121.333	Supplemental oxygen for emergency descent and for first aid; turbine engine powered airplanes with pres. cabins
121.351	Communication and navigation equipment for extended over-water operations and for certain other operations
121.574	Oxygen for medical use by passengers



United States of America



14 CFR Part 135
inclusive but not limited to:

135.43	Crewmember certificates: International operations
135.73	Inspections and tests
135.89	Pilot requirements: Use of oxygen
135.98	Operations in the North Polar Area
135.145	Aircraft proving and validation tests
135.157	Oxygen equipment requirements
135.165	Communication and navigation equipment: Extended over-water or IFR operations
135.364	Maximum flying time outside the United States



United States of America



Advisory Circulars

AC 20-138	Airworthiness Approval of Positioning and Navigation Systems
AC 20-140	Guidelines for Design Approval of Aircraft Data Link Systems Supporting Air Traffic Services (ATS)
AC 20-150	Airworthiness Approval of Satellite Voice Equipment Supporting Air Traffic Service (ATS) Communication
AC 20-165	Airworthiness Approval of Automatic Dependent Surveillance—Broadcast (ADS -B Out System)
AC 90-96	Approval of U.S. Operators and Aircraft to Operate Under IFR in European Airspace for B-RNAV/RNAV5 and P-RNAV
AC 90-105	Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System
AC 90-114	Automatic Dependent Surveillance—Broadcast (ADS-B) Operations
AC 91-70	Oceanic and International Operations
AC 91-85	Approval of Aircraft and Operators for flight in Reduced Vertical Separation Minimum Airspace
AC 120-42	Extended Operations (ETOPS and Polar Operations)
AC 120-70	Operational Authorization Process for Use of Data Link Communication System
AC 135-42	Extended Operations (ETOPS and Polar Operations)



United States of America



Technical Standard Orders (TSO)

TSO-C115C	Flight management systems (FMS) using multi-sensor inputs
TSO-C145C	Airborne Navigation Sensors Using the Global Positioning System (GPS) Augmented by the Wide Area Augmentation System (WAAS)
TSO-C146C	Stand-Alone Airborne Navigation Equipment Using the Global Positioning System (GPS) Augmented by the Wide Area Augmentation System (WAAS)
TSO-C154c	Universal Access Transceiver (UAT) Automatic Dependent Surveillance-Broadcast (ADS-B) Equipment
TSO-C157a	Aircraft Flight information Services-Broadcast (FIS-B) Data Link Systems and Equipment
TSO-C159a	Next Generation Satellite Systems (NGSS) Equipment
TSO-C195a	Avionics Supporting Automatic Dependent Surveillance - Broadcast (ADS-B) Aircraft Surveillance Applications (ASA)
TSO-C196a	Airborne Supplemental Navigation Sensors for Global Positioning System Equipment Using Aircraft-Based Augmentation
TSO-C166b	Extended Squitter Automatic Dependent Surveillance - Broadcast (ADS-B) and traffic information



United States of America



FAA Orders

7110.82D	Reporting Oceanic Errors
8400.12C	Required Navigation Performance 10 (RNP 10) Operational Authorization
8400.33A	Procedures for Obtaining Authorization for Required Navigation Performance 4 (Rnp-4) Oceanic and Remote Area Operations



United States of America



Job Aids

FAA RNP 4 Job Aid	FAA RNP 4 JOB AID - With FAA Order 8400.33 References (2 Sept 2011)
PBN RNP 4 Job Aid	PBN-BASED RNP 4 JOB AID – Updated With ICAO FPL 2012 Flight Plan Entries (1 Dec 2012)
FAA RNP 10 Job Aid	FAA RNP 10 JOB AID (1 Aug 2011) - With FAA Order 8400.12C References
PBN RNP 10 Job Aid	PBN-BASED RNP 10 JOB AID (29 July 2011)



United States RNP 10 and RNP 4 Authorization Policy and Procedures

Operations Specifications (OpSpecs), Management Specifications (MSpecs) and
General Aviation (GA) Letters of Authorization (LOA)

OpSpecs/MSpecs for RNP 10 qualification with two or more Long-Range Navigation Systems (LRNS). OpSpec/MSpec Paragraph [B036](#) (Class II Navigation Using Multiple Long-Range Navigation Systems (M-LRNS)).

GA LOA for RNP 10 qualification with two or more LRNS's: GA LOA [B036](#) (Operations in RNP Airspace).

[FAA Order 8400.12 \(current edition\) \(RNP 10 Operational Authorization\)](#)

[FAA RNP 10 Job Aid For Operator/Aircraft Authorization](#)

[FAA Order 8400.33 \(current edition\) \(Authorization for RNP 4 in Oceanic and Remote Area Operations.\)](#)

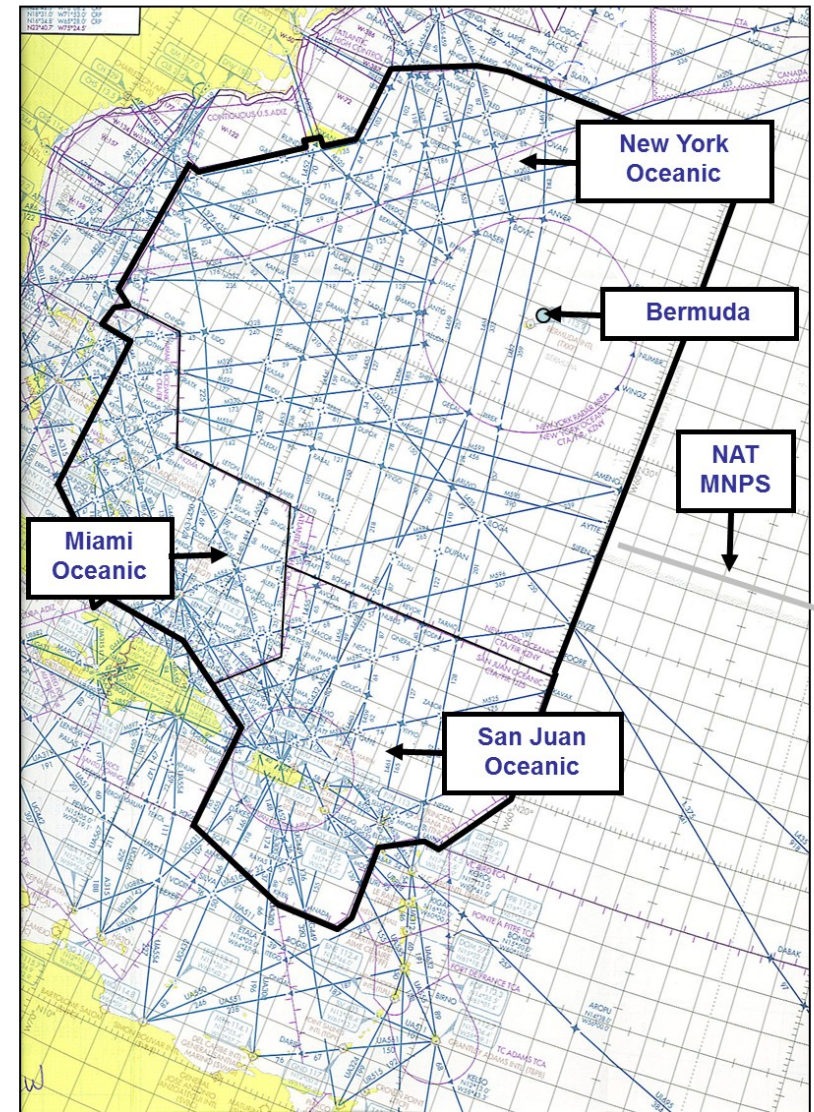
[FAA RNP 4 Job Aid for Operator/Aircraft Authorization](#)

[Aeronautical Information Manual \(AIM\)](#)

WATRS Plus Control Areas

9-12-08

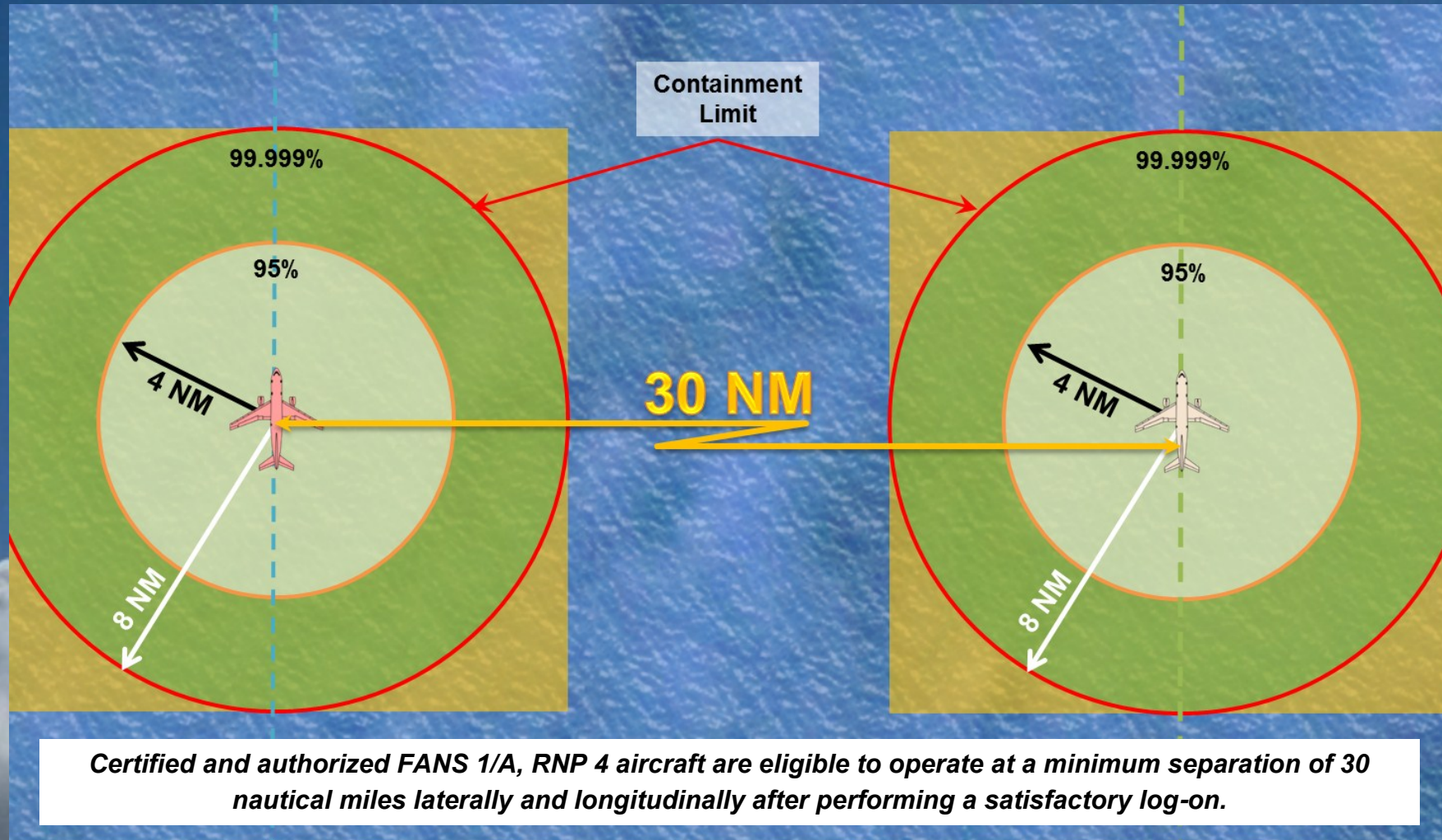
This chart is only intended to show the general location of WATRS Plus CTAs.



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RNP 4



ICAO DOC 9613 Performance Based Navigation (PBN) Manual (Secure Sign-in Procedures)

[See Job Aid References](#)

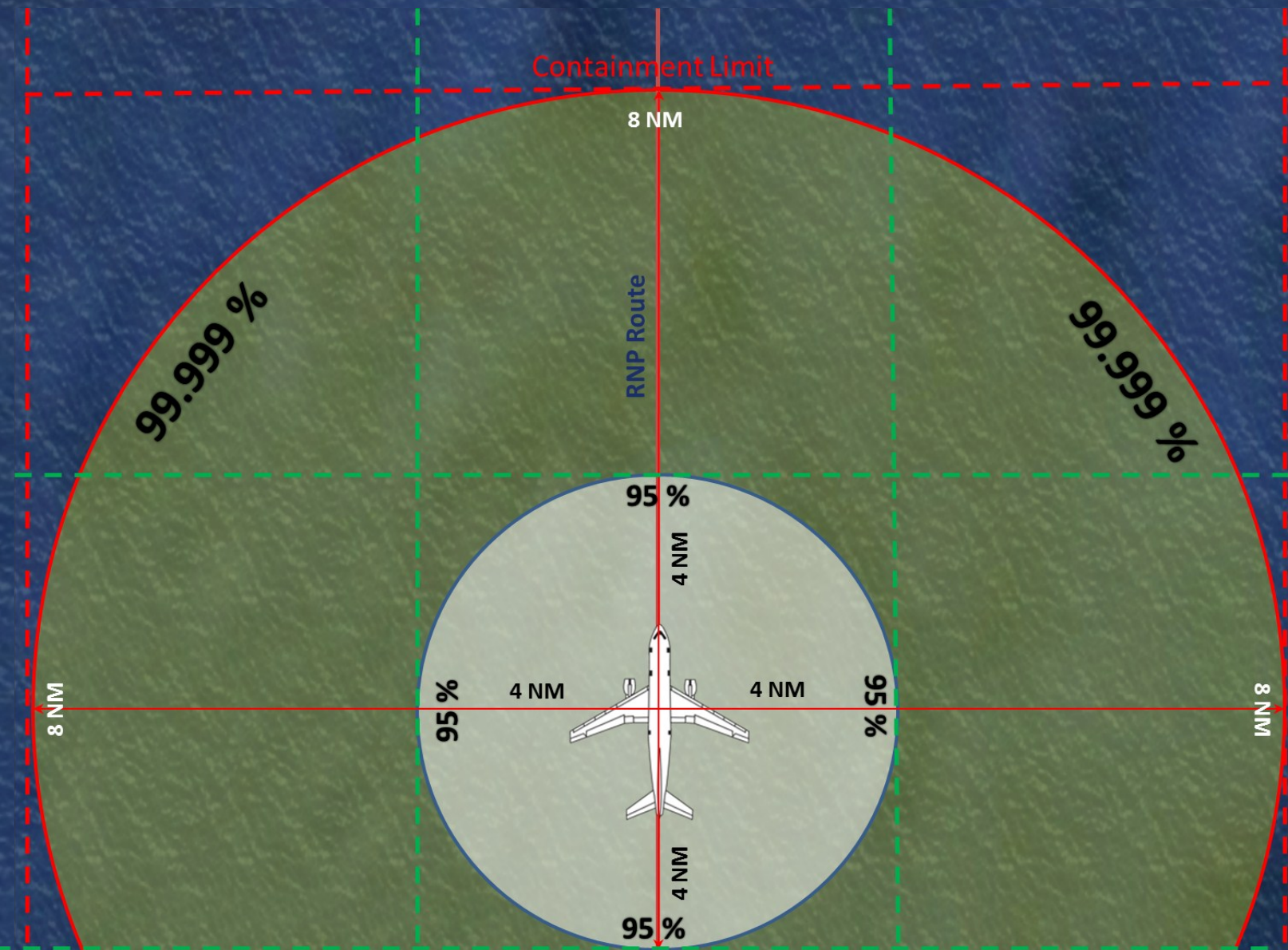
[References](#) | [14 CFR 91.703](#) | [US-OPSECs](#) | [US-Pt 91](#) | [US-Pt 121](#) | [US-Pt 135](#) | [US-ACs](#) | [TSO](#) | [Orders](#) | [Job Aids](#) | [RNP -Oceanic](#) | [RNP-4](#) | [RNP-4 \(2\)](#) | [RNP-10](#) | [RNP-10 \(2\)](#) | [ICAO](#) | [Int'l](#) |



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RNP 4 Accuracy



[References](#) | [14 CFR 91.703](#) | [US-OPSECs](#) | [US-Pt 91](#) | [US-Pt 121](#) | [US-Pt 135](#) | [US-ACs](#) | [TSO](#) | [Orders](#) | [Job Aids](#) | [RNP -Oceanic](#) | [RNP-4](#) | [RNP-4 \(2\)](#) | [RNP-10](#) | [RNP-10 \(2\)](#) | [ICAO](#) | [Int'l](#) |

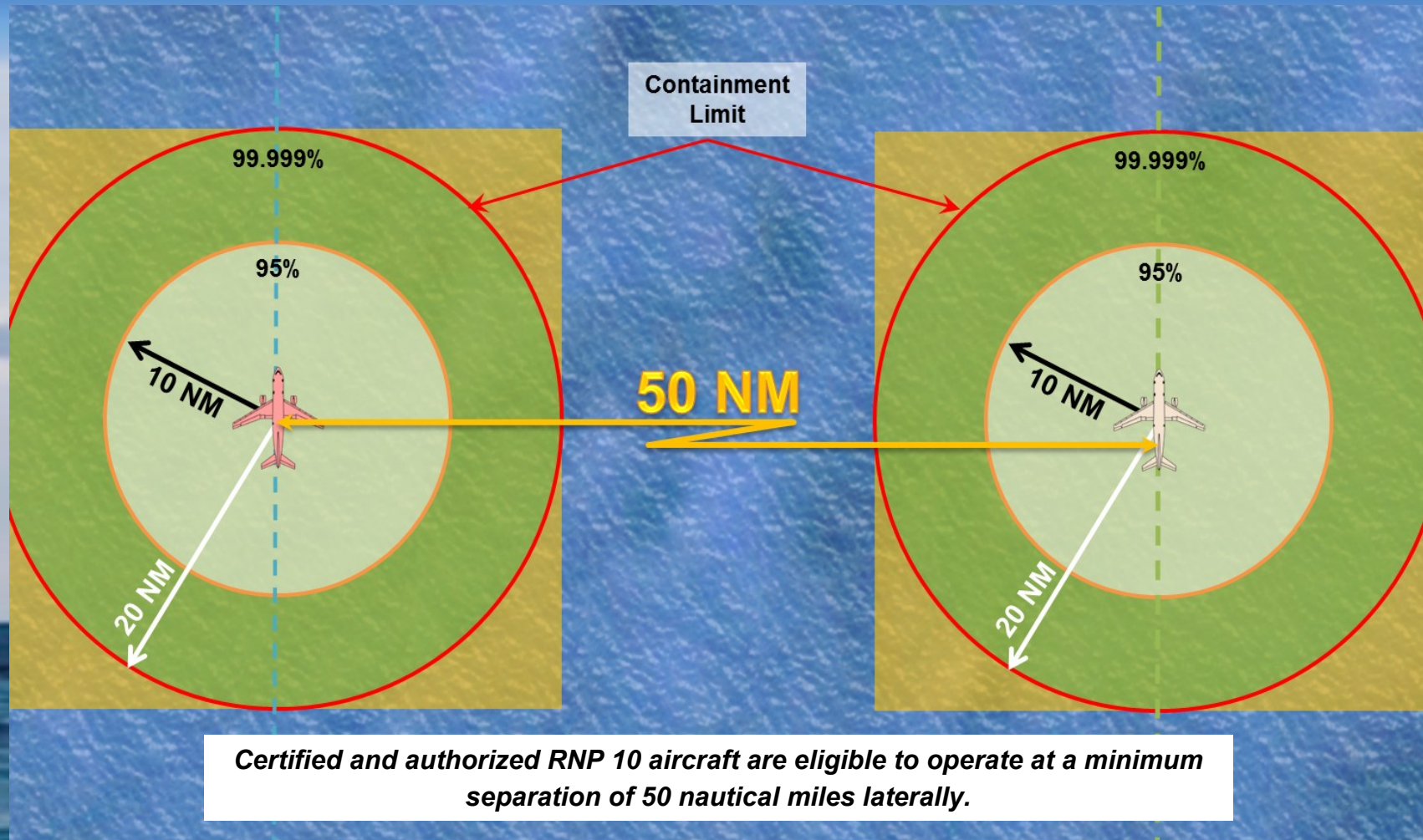


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RNP 10

Operators should consider seeking RNP 4 authorization to meet future oceanic requirements



ICAO DOC 9613 Performance Based Navigation (PBN) Manual (Secure Sign-in Procedures)

[See Job Aid References](#)

[References](#) | [14 CFR 91.703](#) | [US-OPSECs](#) | [US-Pt 91](#) | [US-Pt 121](#) | [US-Pt 135](#) | [US-ACs](#) | [TSO](#) | [Orders](#) | [Job Aids](#) | [RNP -Oceanic](#) | [RNP-4](#) | [RNP-4 \(2\)](#) | [RNP-10](#) | [RNP-10 \(2\)](#) | [ICAO](#) | [Int'l](#) |

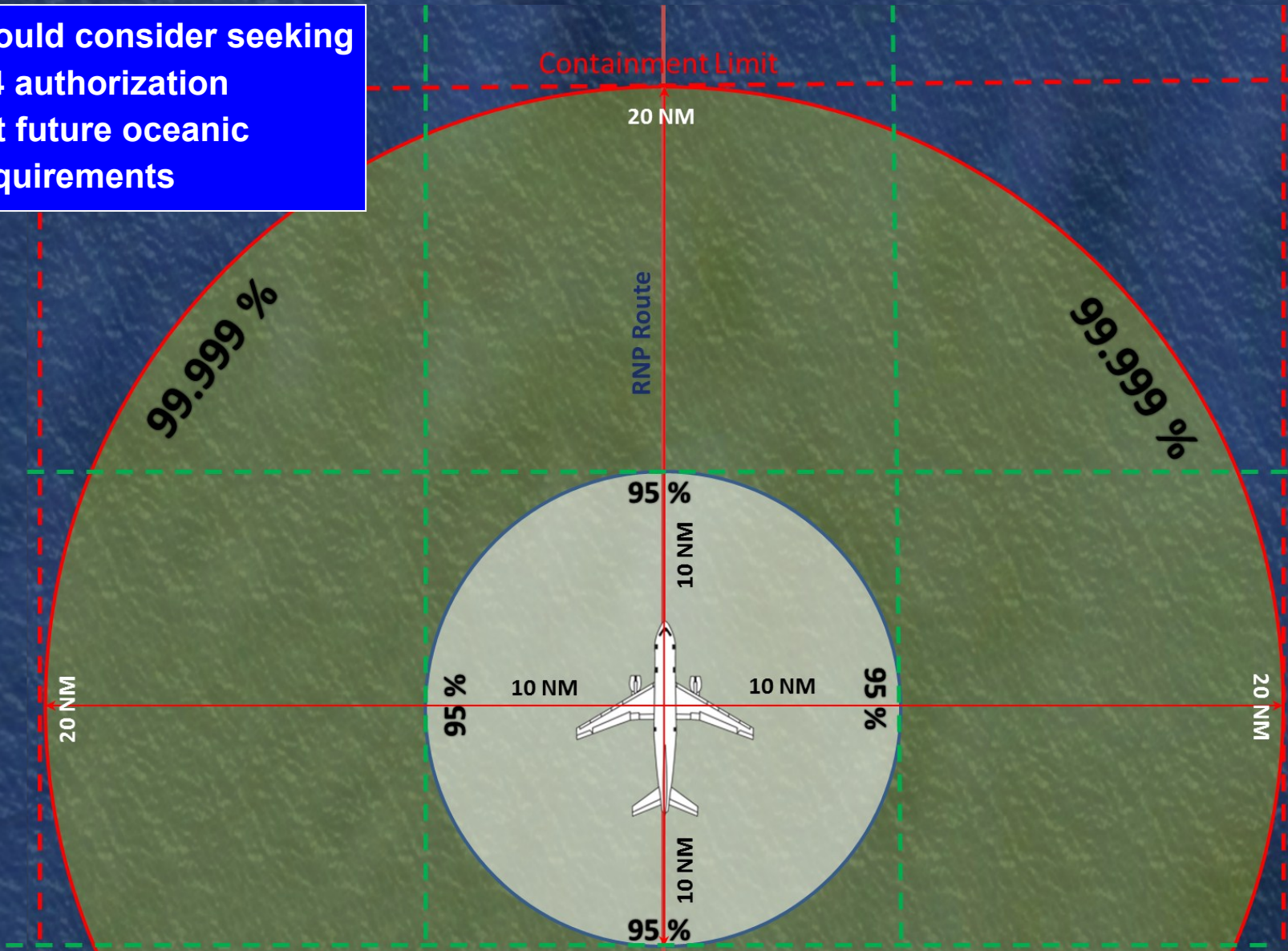


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RNP 10 Accuracy

Operators should consider seeking RNP 4 authorization to meet future oceanic requirements





Documents

[ICAO Online Store](#)

NAT Documents	Bulletins
NAT DOC 001 NAT SPG (Systems Planning Group) Handbook	NAT Region Update Bulletins
NAT DOC 002 The North Atlantic Common Coordination Interface Control Document	NAT RVSM Minimum Monitoring Requirements
NAT DOC 003 High Freq. Management Guidance Material for the N. Atlantic Region	Planning documents supporting separation reductions and other initiatives
NAT DOC 004 Common Aeradio Com. Interface Control Doc. for the N. Atlantic Region	NAT OPS Bulletin 2013-001 , Information & Guidance for Data Link Oceanic Clearance Delivery in Santa Maria FIR
NAT DOC 005 Future ATM Concept of Operations for the North Atlantic Region	NAT OPS Bulletins Checklist
NAT DOC 006 Air Traffic Mgmt Operational Contingency Plan Pts I & II - N. Atlantic Reg.	
NAT DOC 007 North Atlantic Operations and Airspace Manual	
NAT DOC 008 Application of Separation Minima - North Atlantic Region - (NAT ASM)	
GOLD 1st Edition – Global Operational Data Link Document	

References | [14 CFR 91.703](#) | [US-OPSECs](#) | [US-Pt 91](#) | [US-Pt 121](#) | [US-Pt 135](#) | [US-ACs](#) | [TSO](#) | [Orders](#) | [Job Aids](#) | [RNP -Oceanic](#) | [RNP-4](#) | [RNP-4 \(2\)](#) | [RNP-10](#) | [RNP-10 \(2\)](#) | [ICAO](#) | [Int'l](#) |



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International Web Sources

NEW

[Trackwise – Targeting Risk Within The Shanwick OCA – Complete Video](#)

NEW

[European Region RVSM](#)

[Transport Canada RAC - 11.0 NORTH ATLANTIC OPERATIONS](#)

[Nav Canada](#)

[Danish Transport Authority – Trafikstyrelsen](#)

[European Aviation Safety Agency \(EASA\)](#)

[Iceland Aeronautical Information Publication \(AIP\)](#)

[ISAVIA](#)

[Ireland Aeronautical Information Publication \(AIP\)](#)

[IVAO Gander/Shanwick Oceanic](#)

[Santa Maria Oceanic](#)

[Portuguese Aeronautical Information Services](#)

[Norwegian Aeronautical Information Publication \(AIP\)](#)

[UK Aeronautical Information Publication \(AIP\)](#)





NAT

CNS (COMMUNICATION, NAVIGATION, SURVEILLANCE)

CNS

- [NAT Home](#)
- [Long Range Com Guidance](#)
- [Data Link Communications](#)
- [Required Communication Performance 240](#)
- [Required Communication Performance 400](#)



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Long Range Communications

[GOLD \(Global Operational Data Link Document\) \(GOLD 1ST Edition, 14 Jun 2010\)](#) Published by ICAO

14 CFR

[91.511](#) Communication and Navigation for Overwater Operations

[121.351](#) Communication and Navigation Equipment for Extended Over-Water Operations and for Certain Other Operations.

[135.165](#) Communication and Navigation for Overwater Operations

Advisory Circulars

[AC 20-150](#) Airworthiness Approval of Satellite Voice Equipment Supporting Air Traffic Services (ATS) Communication

[AC 91-70](#) Oceanic and International Operations

[AC 120-70](#) Operational Authorization Process for Use of Data Link Communication System





Data Link Authorization

NEW!

NEW!

[NAT OPS Bulletin 2012-031: NAT Region Data Link Mandate](#)

[New York CPDLC NOTAM \(Reference Part 3, International NOTAMS\)](#)

Documents and References

[FAA Advisory Circular 120-70B \(PDF\)](#) Operational Authorization Process for Use of Data Link Communication System

[FAA Advisory Circular 20-140B \(PDF\) \(Guidelines for Design Approval of Aircraft Data Link Communication Systems Supporting Air Traffic Services \(ATS\)\) \(PDF\)](#)

This AC provides airworthiness requirements for the type design approval of aircraft with a data link system installed.

[FAA Advisory Circular AC 91-70A \(PDF\)](#) Oceanic and International Operations

[FAA Site: Oceanic and Offshore](#)

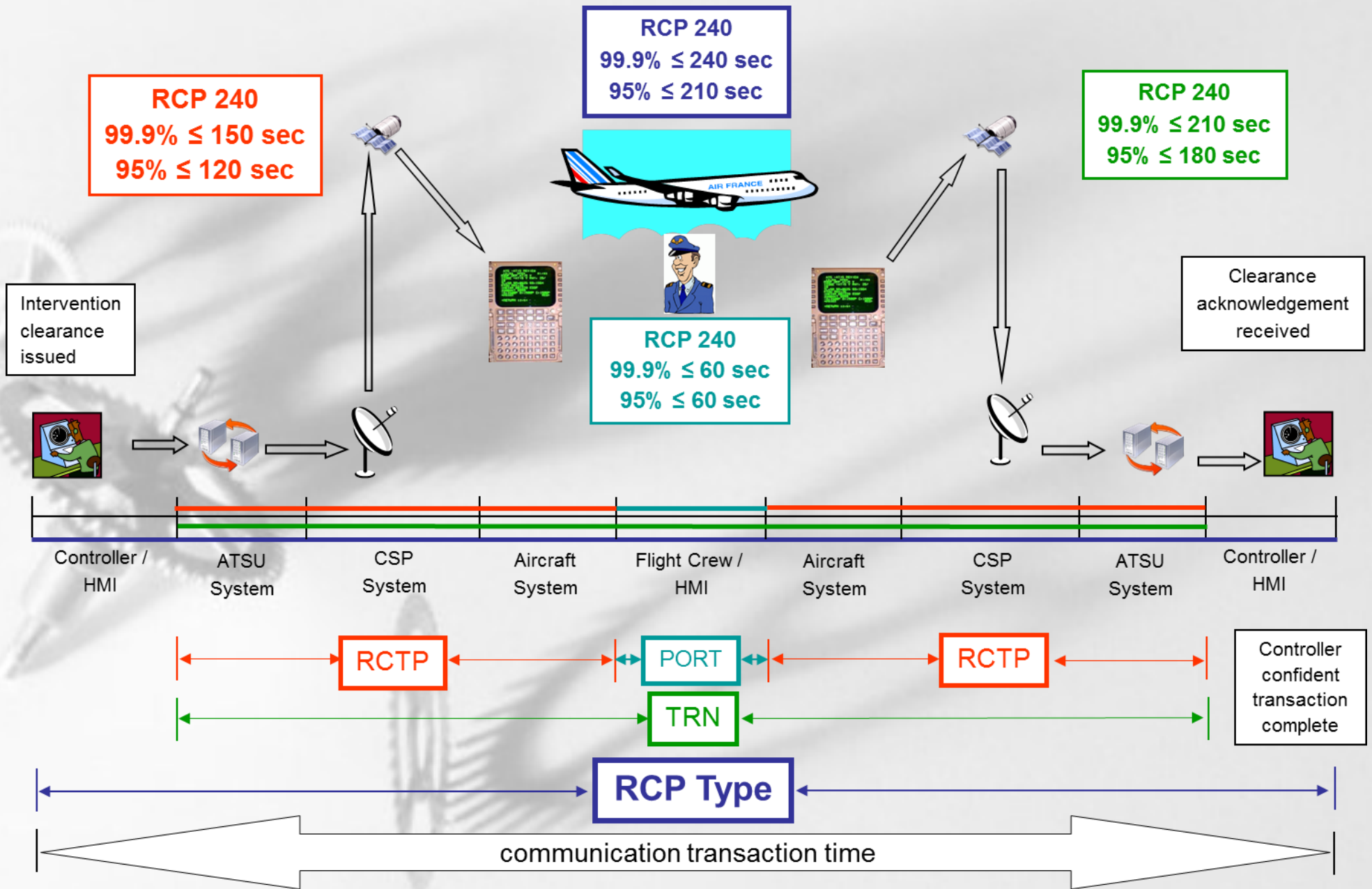
[Data link Approval Checklist \(15 Dec 2011\) \(MS Word\)](#)

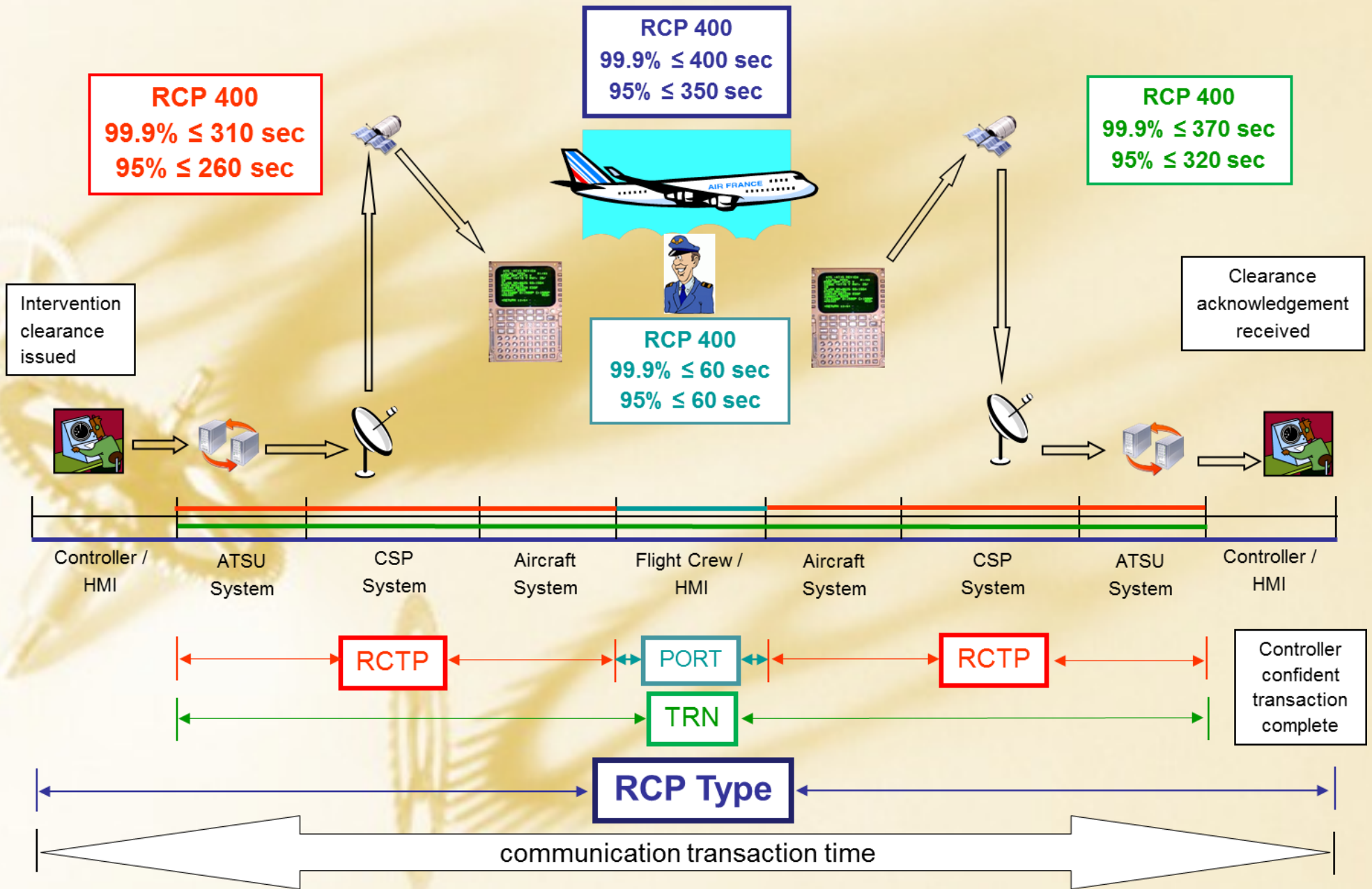
[GOLD \(Global Operational Data Link Document\) \(GOLD 1ST Edition, 14 Jun 2010\)](#) Published by ICAO

[NAT OPS Bulletin 2013-001](#), Information & Guidance for Data Link Oceanic Clearance Delivery in Santa Maria FIR

Data Link News









NAT

INSPECTOR GUIDANCE

NAT

Inspector

Guidance

- [NAT Home](#)
- [OPSPEC Guidance](#)



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FAA Inspector Guidance: FAA Order 8900.1

Paragraph 4-108 (RNP in Class II Airspace) Paragraph 4-108 provides guidance for RNP 10 qualification with two or more Long-Range Navigation Systems (LRNS).

Paragraph 3-816 [OpSpec/MSpec B036](#) (Class II Navigation Using Multiple Long-Range Navigation Systems. Located in 8900.1, Vol 3, Chapter 18, Section 4 (Part B OpSpecs – En Route Authorizations and Limitations) This paragraph provides guidance for RNP 10 qualification for aircraft equipped with two or more LRNS's.



REFERENCES

- [OPSEC Guidance](#)
- [CFR 14 Part 91](#)
- [CFR 14 Part 121](#)
- [CFR 14 Part 135](#)
- [Advisory Circulars](#)
- [TSO](#)
- [FAA Orders](#)
- [Job Aids](#)
- [FSIMS](#)
- [Incident Investigations](#)





NAT

ACRONYMS

NAT

Acronyms

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- [A](#)
- [B-D](#)
- [E, F](#)
- [G-I](#)
- [J-M](#)
- [N, O](#)
- [P, R](#)
- [S, T](#)
- [U-X](#)



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Acronym	Definition
AC	Advisory Circular
ACA	Arctic Control Area
ACARS	Aircraft Communication Addressing and Reporting System
ACAS	Airborne Collision Avoidance System (same as TCAS)
ACC	Area Control Center
ADF	Automatic Direction Finder
ADIRU	Air Data Inertial Reference Unit
ADS	Automatic Dependent Surveillance
ADS-B	Automatic Dependent Surveillance-Broadcast
ADS-C	Automatic Dependent Surveillance-Contract
AFM	Aircraft Flight Manual
AFTN	Aeronautical Fixed Telecommunications Network
AIFSS	Aviation International Flight Service Station
AIM	Aeronautical Information Manual
AIP	Aeronautical Information Publication
AIREP	Aircraft Reports
AIS	Aeronautical Information Services
ALTRV	Altitude Reservation
AMSS	Aeronautical Mobile Satellite Service
AMU	Area of Magnetic Unreliability
AMVER	Automated Merchant Vessel Report
ANP	Air Navigation Plan
AOC	Aeronautical Operational Control
APU	Auxiliary Power Unit
ARINC	Aeronautical Radio, Inc.
ARTCC	Air Route Traffic Control Center
ATA	Actual Time of Arrival
ATC	Air Traffic Control

[Acronyms](#) | [A](#) | [B-D](#) | [E,F](#) | [G-I](#) | [J-M](#) | [N,O](#) | [P,R](#) | [S,T](#) | [U-X](#) |



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ATC downlinks	Messages sent by the pilots to the controller.
ATC uplinks	Messages sent by the controller to the pilots.
ATCC	Air Traffic Control Center
ATM	Air Traffic Management
ATN	Aeronautical Telecommunication Network
ATS	Air Traffic Service
ATSP	Air Traffic Services Provider
ATSU	Air Traffic Services Unit
BITE	Built-In Test Equipment
BRG	Bearing
CAA	Civil Aviation Authority
CAR-SAM	Caribbean–South America (ICAO term)
CB	Cumulonimbus Clouds
CDA	Current Data Authority
CDL	Configuration Deviation List
CDU	Control Display Unit
CENPAC	Central Pacific
CEP	Central East Pacific
CFP	Computer Flight Plan
CHDO	Certificate-Holding District Office
CIS	Commonwealth of Independent States
CMA	Central Monitoring Agency
CNS/ATM	Communications, Navigation and Surveillance/Air Traffic Management
CPDLC	Controller-Pilot Data Link Communications
CTA	Control Area
CU	Cumulus Clouds
DA	Decision Altitude
DARP	Dynamic Airborne Reroute Procedure
DCPC	Direct Controller Pilot Communications

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DEWIZ	Distant Early Warning Identification Zone
DH	Decision Height
DM	Downlink Message
DME	Distance Measuring Equipment
DOI	Department of Interior
DR	Dead Reckoning
EDTO	Extended Diversion Time Operations (ICAO Annex 6 equivalent of ETOPS)
EFIS	Electronic Flight Instrument System
EICAS	Engine Indicating and Crew Alerting System
ELT	Emergency Locator Transmitter
ETA	Estimated Time of Arrival
ETOPS	Extended Operations
ETP	Equal Time Point
EUR/NAT	Europe and North Atlantic
EVS	Enhance Vision System
FAF	Final Approach Fix
FANS	Future Air Navigation System
FBO	Fixed Base Operator
FCC	Federal Communications Commission
FD	Flight Director
FDE	Fault Detection and Exclusion
FDPS	Flight Data Processing System
FIP	Flight Inspection and Procedures
FIR	Flight Information Region
FL	Flight Level
FMC	Flight Management Computer
FMS	Flight Management System
FOM	Flight Operations Manual
FRMS	Fatigue Risk Management System

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FSDO	Flight Standards District Office
FSIMS	Flight Standards Information Management System
FSS	Flight Service Station
FTE	Flight Technical Error
FTR	Flexible Track Route
FTS	Flexible Track System
GLCC	Global LORAN-C Charts
GLONASS	Globalnaya Navigatsionnaya Sputnikovaya Sistema
GMT	Greenwich Mean Time
GNE	Gross Navigation Error
GNSS	Global Navigation Satellite System
GP	General Purpose
GPS	Global Positioning System
GPWS	Ground Proximity Warning System
HDG	Heading
HEDA	Helicopter En Route Descent Area
HF	High Frequency (3-30 MHz)
HFDL	High Frequency Data Link
hPa	Hectopascals
HR	Human Range
HUD	Head-Up Display
IAP	Instrument Approach Procedure
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IFIM	International Flight Information Manual
IFR	Instrument Flight Rules
IGA	International General Aviation
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions

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IN	International Notice to Airmen
INS	Inertial Navigation System
IRS	Inertial Reference System
IRU	Inertial Reference Unit
ISA	International Standard Atmosphere
ITCZ	Inter-tropical Convergence Zone
JAA	Joint Aviation Authority
km	Kilometer
LAA	Lowest Authorized Altitude
LDA	Landing Distance Available
LDOC	Long Distance Operational Control
LNAV	Lateral Navigation
LOA	Letter of Authorization
LRCS	Long-Range Communication System
LRNP	Long-Range Navigation Program
LRNS	Long-Range Navigation System
MACS	Military Aviation Communication System
MCA	Ministry of Civil Aviation
MDA	Minimum Descent Altitude
MEA	Minimum En Route Altitude
MEL	Minimum Equipment List
MET	Meteorology Information
MMEL	Master Minimum Equipment List
MMS	Mineral Management Service
MNPS	Minimum Navigation Performance Specifications
MNPS OPS	Minimum Navigation Performance Specifications Operations
MOA	Memorandum of Agreement
MORA	Minimum Off-Route Altitude
MSL	Mean Sea Level

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MSpecs	Management Specifications
MTR	Military Training Routes
NAM	North American
NAR	North American Route System
NAS	National Airspace System
NAT	North Atlantic
NAT OTS	North Atlantic Organized Track System
NAT SPG	North Atlantic Systems Planning Group
NAV	Navigation
Nav Specs	Navigation Specifications
NCA	Northern Control Area
ND	Navigation Display
NDB	Non-Directional Beacon
NFDC	National Flight Data Center
NM	Nautical Miles
NOAA	National Oceanic and Atmospheric Administration
NOF	NOTAM offices
NOPAC	North Pacific
NOTAM	Notice to Airmen
NPOLE	North Pole
NWS	National Weather Service
OADR	Oceanic Altitude Deviation Reports
OAT	Outside Air Temperature
OCA	Oceanic Control Area
OCA	Obstacle Clearance Altitude
OCD	Oceanic Clearance Delivery
OCEAN21	Oceanic Flight surveillance and flight data processing
OCH	Obstacle Clearance Height
OESB	Oceanic Errors Safety Bulletin

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OpSpecs	Operations Specification
OSAP	Offshore Standard Approach Procedure
OTS	Organized Track System
PACOTS	Pacific Oceanic Track System
PANS-ABC	ICAO abbreviations and codes
PANS-ATM	ICAO Doc 4444 – Procedures for Air Navigation Services – Air Traffic Management
PANS-ATM	Procedures for Air Navigation Services-Air Traffic Management
PBN	Performance-based Navigation
PMI	Principal Maintenance Inspector
PNF	Pilot-Not-Flying
POC	Point of Contact
POI	Principal Operations Inspector
POS	Position
PPO	Prior Permission Only
PRC	People’s Republic of China
RA	Resolute Advisory
RAIM	Receiver Autonomous Integrity Monitoring
RCC	Rescue Coordination Center
RCP	Required Communication Performance
REF	Reference
RNAV	Area Navigation
RNP	Required Navigation Performance
RNP-10	Required Navigation Performance 10 NM
RNP-4	Required Navigation Performance 4 NM
RTA	Required Time of Arrival
RVR	Runway Visual Range
RVSM	Reduced Vertical Separation Minimum
RWY	Runway
SAO	Special Areas of Operations

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SAR	Search and Rescue
SARP	Standards and Recommended Practices (ICAO)
SARPS	Standards and Recommended Practices
SAT	Static Air Temperature
SATCOM	Satellite Communication
SATCOM Voice	Satellite Voice Communication
SC	Stratocumulus Clouds
SCA	Southern Control Area
SELCAL	Selective Calling
SIA	Standard Instrument Approach
SID	Standard Instrument Departure
SIGMET	Significant Meteorological Information
SITA	Societe International de Télécommunications Aeronautiques
SLOP	Strategic Lateral Offset Procedure
S-LRCS	Single Long Range Communication System
S-LRNS	Single Long-Range Navigation System
SMO	System Management Office
SOP	Standard Operating Procedures
SSB	Single Sideband
SSR	Secondary Surveillance Radar
STAR	Standard Terminal Arrival Route
SUPPS	Regional Supplementary Procedures
TAF	Terminal Area Forecast
TAS	True Airspeed
TCAS	Traffic Alert and Collision Avoidance System
TDM	Track Definition Message
TKE	Track Angle Error
TLS	Target Level of Safety
TMI	Track Message Identifier

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TOD	Top of Descent
TSA	Transportation Security Administration
TSO	Technical Standard Order
TVE	Total Vertical Error
UHF	Ultrahigh Frequency
UM	Uplink Message
UPR	User Preferred Routes
USB	Upper Sideband
USNOF	United States NOTAM Office
UTA	Upper Control Area
UTC	Universal Time Coordinated
VDP	Visual Descent Point
VFR	Visual Flight Rules
VHF	Very High Frequency
VLF	Very Low Frequency
VMC	Visual Meteorological Conditions
VOLMET	Meteorological Information For Aircraft In Flight
VOR/DME	VHF Omnidirectional Range/Distance Measuring Equipment
WAC	World Aeronautical Charts
WAH	When Able Higher
WATRS	West Atlantic Route System
XTK	Cross-Track Error

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