



**Agenda Item 4**

**Air Navigation Matters**

**4.2 Follow-up on the implementation of the NAM/CAR Regional Performance Based Air Navigation Plan (RPBANIP) in Eastern Caribbean**

**IMPLEMENTATION OF 30 NM LATERAL, 30 NM AND 50 NM LONGITUDINAL SEPARATION MINIMA IN NEW YORK FLIGHT INFORMATION REGION (FIR)**

(Presented by United States)

**SUMMARY**

This information paper presents the final proposal for amendment (PfA) to the Caribbean Regional Supplementary Procedures which will be submitted to ICAO for processing for the planned December 2013 implementation of 30NM lateral, 30NM longitudinal and 50NM longitudinal separation in the New York Flight Information Region.

**Strategic Objectives**

*This working paper is related to Strategic Objectives:  
A. Safety – Enhance global civil aviation safety  
C. Environmental Protection and Sustainable Development of Air Transport*

**1. Introduction**

1.1 This information paper presents an updated draft PfA to the Caribbean Regional Supplementary Procedures (**Appendix**) which will be submitted to ICAO for processing for the planned December 2013 implementation. It describes the provisions for the application of 30NM lateral, 30NM and 50NM longitudinal separation minima in the New York FIR and Oceanic Control Area (CTA).

1.2. The United States informed the Thirty-Third Eastern Caribbean Working Group Meeting (E/CAR/WG/33) held in June 2012 of plans to implement the 50 nautical mile (NM) longitudinal, 30 NM lateral and 30 NM longitudinal separation minima between suitably equipped and authorized aircraft pairs in the New York Oceanic Flight Information Region (FIR). The United States provided a draft Concept of Operations (CONOPS), the Know Your Airspace document for New York Airspace and the project task list for review and comment by the meeting.

1.3. Similarly a proposal for amendment (PfA) to the Caribbean and North Atlantic Regional Supplementary Procedures (ICAO Doc 7030) was presented, advising the meeting that the planned implementation date was 12 December 2013. Trinidad and Tobago agreed to work together with the United States in reviewing the PfA to the Caribbean and North Atlantic Regional Supplementary Procedures (ICAO Doc 7030), and finally submit it to ICAO NACC Regional Office for the corresponding process as established in the Doc 7030 Procedure for the Amendment of Regional Supplementary Procedures. Changes recommended by Trinidad and Tobago have been included in the PfA. The FAA will timely submit the PFA to ICAO NACC Regional Office to continue the amendment process.

## **2. Discussion**

### *Background and related activity*

2.1. The United States Federal Aviation Administration (FAA) is preparing for the implementation of 30NM lateral, 30NM and 50NM longitudinal separation minima in New York FIR/OCA on 12 December 2013. These separation minima, while planned to be used routinely, will be applied only to authorized aircraft that file the appropriate equipment and capabilities in Items 10 and 18 of the flight plan.

2.2. New York Air Route Traffic Control Center (ARTCC) will continue to accommodate operators that are not eligible for 50NM longitudinal, 30NM lateral and 30NM longitudinal separation minima throughout the New York Oceanic FIR. Lateral and longitudinal separation minima applied to aircraft not eligible for these reduced separation minima and operating on published ATS routes will remain unchanged.

### *Summary of proposed amendments*

2.3. An amendment is proposed to Chapter 4 to add descriptive information on the Performance-based Navigation (PBN) Manual (Doc 9613), as well as navigation performance criteria. Means of compliance for States to obtain approval for appropriate Required Navigation Performance (RNP). A placeholder was added to RNP 4 to allow for the later addition of 25NM lateral separation.

2.4. The changes proposed to Chapter 6 include provisions for 30NM lateral, 30NM and 50NM longitudinal separation minima in the New York FIR/OCA, as well as a placeholder for 25NM lateral separation. In addition, provisions for communications, navigation and surveillance are included as sub-items to paragraph 6.2.1.1 for the 30 NM lateral separation minimum, and 6.2.2.2, for the 30 NM and 50 NM longitudinal separation minima were added to reflect the requirements and planned monitoring to be done by the United States.

2.5. The PfA for the Caribbean Doc 7030 is contained in Appendix.

### *Hazard analysis*

2.6. A Safety Risk Management Panel (SRMP) was conducted on 8-9 January 2013 to consider potential hazards applicable to the proposed procedural changes. Analysis tools and techniques were utilized in accordance with FAA directives to analyze and assess risk for any identified hazard. The panel identified one low-risk hazard (Increased Controller Workload) existing within five distinct system states.

2.7. The SRMP categorized the following potential hazards in scope and caused by the change:

- a) Managing 50NM longitudinal, 30NM lateral and 30NM longitudinal separation in a mixed environment;
- b) Aircraft loses RNP4 capability;
- c) Aircraft loses controller-pilot data link communications (CPDLC) and/or automatic dependent surveillance-contract (ADS-C) capability;
- d) Unplanned system-wide loss of CPDLC and ADS-C connection/capability; and
- e) Establishing alternative separation standard due to catastrophic failure of the Ocean21 automation system.

2.8. During deliberation of the preliminary hazards, the panel determined that there was only one hazard that existed within five separate system states. The resulting hazard, Increased Controller Workload, was further examined in the context of these varying system states.

2.9. The SRMP categorized the following potential hazards as pre-existing in scope and not caused by the change:

- a) Aircraft deviating for weather or in flight contingency procedures without a clearance;
- b) Controller workload increase due to manually applying the standard; and
- c) Increase in the number of Out of Conformance messages.

2.10. The panel determined the worst credible outcome of the use of reduced separation in a mixed environment is a loss of separation as defined by FAA Order 7210.632. The risk was classified as Low. Ocean21 alerts the controller when larger separation minima are required by the adjacent facility. This is already working as designed in the system and controllers use it when they are applying 50NM lateral and need to pass aircraft to the adjacent facility with a higher separation requirement.

2.11. The SRMP determined the proposed changes do not degrade the operational risk in the ZNY FIR.

#### *Safety analysis*

2.12. The requirements for implementation of 50 NM longitudinal, 30 NM lateral, and 30 NM longitudinal separation standards using ADS-C are listed in ICAO Doc 4444. The requirements included that aircraft be approved for a specific Required Navigation Performance (RNP) and have direct controller-pilot communications (DCPC).

2.13. The application of the reduced longitudinal separation requires ADS service with a specified maximum periodic reporting interval for the 50 NM and 30 NM longitudinal separation minimum. The safety assessment verified that the ADS requirements of ICAO Doc 4444, as they pertain to application of the 50 NM longitudinal, 30 NM lateral, and 30 NM longitudinal separation standards, are satisfied in New York Oceanic Airspace.

2.14. Data collected from the Ocean21 system for the period June 2011 through May 2012 were used in this safety assessment. Analyses of these data show an average of 558 flights per day operate within New York Oceanic Airspace; some of the operations are conducted within both the NAT and West Atlantic Route System (WATRS) portions of the airspace. An average of 274 flights per day operate within the NAT portion, and an average of 456 flights per day operate within WATRS airspace. Fifty per cent, or 137 flights per day, utilize ADS-C for position reporting in the NAT portion of New York Oceanic Airspace, and 23 percent, or 105 flights per day, utilize ADS-C for position reporting in the WATRS portion of New York Oceanic Airspace.

2.15. The safety assessment provides a summary of data link performance for operations conducted within New York Oceanic Airspace, a description of the lateral and longitudinal collision risk models and presents the parameter estimates used in the safety assessment. It also describes the planned post-implementation monitoring activities related to the implementation of the reduced separation minima in New York Oceanic Airspace to be conducted by the FAA William J. Hughes Technical Center. A copy of the full safety assessment can be made available upon request.

*Results of the safety assessment*

2.16. The estimate of lateral collision risk for the implementation of the 30-NM lateral separation standard is  $0.52 \times 10^{-9}$  fatal accidents per flight hour for eligible operations within New York Oceanic Airspace. This value satisfies the target level of safety (TLS) value applicable to judging the safety of the lateral separation standard,  $5.0 \times 10^{-9}$  fatal accidents per flight hour due to the loss of planned lateral separation.

2.17. The estimate of longitudinal collision risk for the implementation of the 50 NM longitudinal separation standard is  $0.66 \times 10^{-9}$  fatal accidents per flight hour for RNP 10 operations using ADS-C with a reporting rate of 20-minutes within New York airspace. This value satisfies the TLS value applicable to judging the safety of the longitudinal separation standard,  $5.0 \times 10^{-9}$  fatal accidents per flight hour due to the loss of planned longitudinal separation.

2.18. The estimate of longitudinal collision risk for the implementation of the 30 NM longitudinal separation standard is  $3.70 \times 10^{-9}$  fatal accidents per flight hour for eligible operations with a reporting rate of 10-minutes within New York oceanic airspace. This value satisfies the TLS value applicable to judging the safety of the longitudinal separation standard,  $5.0 \times 10^{-9}$  fatal accidents per flight hour due to the loss of planned longitudinal separation.

**3. Action by the Meeting**

3.1. The Meeting is invited to review and support the information presented in this paper and the Appendix.

-----

## APPENDIX

**PROPOSAL FOR AMENDMENT OF THE  
REGIONAL SUPPLEMENTARY PROCEDURES  
~~CARIBBEAN (CAR) REGION~~ (Doc. 7030/5)  
*CARIBBEAN (CAR) AND NORTH ATLANTIC (NAT) REGIONS*  
(Serial No. NACC-S13/2 – CAR/NAT)**

(Serial No.: XXX – CAR 4-1)

a) **Regional Supplementary Procedures:**

CAR

b) **Proposed by:**

United States *with the support of* **NAT SPG**, *ECAR/CATG, and E/CAR DCA Meetings*

c) **Proposed amendment:**

*Editorial Note:* Amendments are arranged to show deleted text using strikethrough (~~text to be deleted~~), and added text with grey shading (text to be inserted).

*Amend the following in the CAR SUPPS, ~~Chapter 4~~ as shown below.*

## Chapter 4. NAVIGATION

### 4.1 PERFORMANCE-BASED NAVIGATION (PBN)

*Note.* — ~~As the Caribbean (CAR) Region transitions to PBN as contained in the ICAO Performance-based Navigation (PBN) Manual (Doc 9613), the contents of 4.1 will be amended. Doc 9613~~ provides guidance on aircraft, operations and maintenance programmes for the **initial** achievement and continued compliance with the **authorized-approved** navigation specification.

#### 4.1.1 Area navigation (RNAV) specifications

##### 4.1.1.1 RNAV 10 (RNP 10)

*Note.* — ~~Implementation of RNAV 10 retains the RNP-10 designation, as specified in the Performance-based Navigation (PBN) Manual (navigation specification is based on the ICAO Performance-Based Navigation (PBN) Manual (Doc 9613)), 1.2.3.5 4<sup>th</sup> Edition, Part B, Chapter 1.~~

4.1.1.1.1 — A lateral separation minimum of 93 km (50 NM) may be applied between flights operating on oceanic routes or areas.

*Area of applicability*

- a) ~~within the control area of the San Juan FIR, the Atlantic portion of the Miami Oceanic control area or the West Atlantic Route System (WATRS); and~~
- b) ~~outside WATRS within the control area of the New York Oceanic FIR, except minimum lateral separation between aircraft transitioning from airspace in the New York Oceanic FIR/CTA to MNPS airspace shall be 110 km (60 NM).~~

~~*Note. The WATRS area is defined as beginning at a point 27°00'N/77°00'W direct to 20°00'N/67°00'W direct to 18°00'N/62°00'W direct to 18°00'N/60°00'W direct to 38°30'N/60°00'W direct to 38°30'N/69°15'W, thence counterclockwise along the New York Oceanic control area/FIR boundary to the Miami Oceanic control area/FIR boundary, thence southbound along the Miami Oceanic control area/FIR boundary to the point of beginning.*~~

~~*Note. The NAT MNPS are set forth in NAT SUPPS, 4.3. NAT MNPS airspace is identified in NAT SUPPS, 4.3.1.1.*~~

4.1.1.1.1 The RNP 10 *navigation* specification shall be applicable to ~~navigation systems used to~~ support the separation minima specified in 6.2.1.1 b) when published in State AIPs. Additionally, the navigation performance shall be measured to ensure that the following criteria are met in order for this separation minima to be utilized in the New York Oceanic FIR:

- a) the proportion of the total flight time spent by aircraft 46 km (25 NM) or more off the cleared track shall be less than  $9.11 \times 10^{-5}$ ; and
- b) the proportion of the total flight time spent by aircraft between 74 and 111 km (40 and 60 NM) off the cleared track shall be less than  $1.68 \times 10^{-5}$ .

#### *Means of compliance*

4.1.1.1.2 ~~For application of 4.1.1.1.1, operators and civil aviation authorities must follow the provisions listed below:~~

4.1.1.1.2 Operator programmes shall be established to mitigate the occurrence of navigational errors due to equipment malfunction or operational error:

- a) operator in-flight operating drills shall include mandatory navigation cross-checking procedures to identify navigation errors in sufficient time to prevent aircraft from inadvertent deviation from ATC-cleared route; and
- b) the operator shall establish programmes to provide for the continued airworthiness of aircraft navigation systems necessary to navigate to the degree of accuracy required.

4.1.1.1.3 ~~The aircraft and operator must be approved RNP 10 or RNP 4 by the State of the Operator or the State of Registry, as appropriate. RNP 10 is the minimum navigation specification for the application of 93 km (50 NM) lateral separation.~~

4.1.1.1.4 ~~States shall ensure, when granting approval for RNP 10 or RNP 4, that operators establish programmes to mitigate the occurrence of large lateral track errors due to equipment malfunction or operational error.~~

*Note.— The Performance-based Navigation (PBN) Manual (Doc 9613) provides guidance on aircraft, operations and maintenance programmes for the initial achievement and continued compliance with the authorized navigation specification.*

...

## 4.1.2 Required navigation performance (RNP) specifications

### 4.1.2.1 RNP 4

~~Nil.~~

*Note. — Implementation of RNP 4 navigation specification is based on the ICAO Performance-Based Navigation (PBN) Manual (Doc 9613), 4<sup>th</sup> Edition, Part C, Chapter 1*

4.1.2.1.1 The RNP 4 specification shall be applicable to navigation systems used to support the separation minima specified in 6.2.1.1 a) when published in State AIPs. Additionally, the navigation performance shall be measured to ensure that the following criteria are met in order for this separation minima to be utilized in the New York Oceanic FIR:

- 1) the proportion of the total flight time spent by aircraft 28 km (15 NM) or more off the cleared track shall be less than  $5.44 \times 10^{-5}$ ; and
- 2) the proportion of the total flight time spent by aircraft between 44 and 67 km (24 and 36 NM) off the cleared track shall be less than  $1.01 \times 10^{-5}$ .

#### *Means of compliance*

4.1.2.1.3 The aircraft and operator shall be approved RNP 4 by the State of the Operator or the State of Registry, as appropriate.

4.1.2.1.4 Operator programmes shall be established to mitigate the occurrence of navigational errors due to equipment malfunction or operational error:

- a) operator in-flight operating drills shall include mandatory navigation cross-checking procedures to identify navigation errors in sufficient time to prevent aircraft from inadvertent deviation from ATC-cleared route; and
- b) the operator shall establish programmes to provide for the continued airworthiness of aircraft navigation systems necessary to navigate to the degree of accuracy required.

*Amend the following in the CAR SUPPS, Chapter 6.*

## Chapter 6. AIR TRAFFIC SERVICES

### 6.2 SEPARATION

#### 6.2.1 Lateral

(A11 – Attachment B; P-ATM – Chapters 5 and 15)

6.2.1.1 Minimum lateral separation shall be:

a) 55.5 km (30 NM) between aircraft operating within the control area of the New York Oceanic FIR provided that the following conditions are met:

- 1) navigation ~~—RNP 4—~~specification *RNP 4* in accordance with the provisions of 4.1.2.1;
- 2) communication – CPDLC shall be monitored against RCP 240; and
- 3) surveillance – ADS-C shall be monitored against RSP 180.

*Note – Guidance concerning RCP and RSP specifications, application and performance requirements can be found in the Global Operational Data Link Document (GOLD).*

ab) 93 km (50 NM) between aircraft ~~approved meeting~~ RNP 10 or RNP 4 ~~meeting the provisions in navigation~~ specifications in accordance with the provisions of 4.1.1.1 or 4.1.2.1, respectively, operating *with*in:

- 1) the control area of the San Juan FIR, the Atlantic portion of the Miami Oceanic control area or the West Atlantic Route System (WATRS); and
- 2) the control area of the New York Oceanic FIR, except minimum lateral separation between aircraft transitioning from airspace in the New York FIR/CTA to MNPS airspace shall be -110 km (60 NM).

*Note.— The WATRS area is defined as beginning at a point 27°00'N/77°00'W direct to 20°00'N/67°00'W direct to 18°00'N/62°00'W direct to 18°00'N/60°00'W direct to 38°30'N/60°00'W direct to 38°30'N/69°15'W, thence counter-clockwise along the New York Oceanic ~~control area~~/FIR boundary to the Miami Oceanic control area/FIR boundary, thence southbound along the Miami Oceanic control area/FIR boundary to the point of beginning.*

bc) 110 km (60 NM) between aircraft which meet the North Atlantic minimum navigation performance specifications (MNPS) which, while operating in the control area of San Juan FIR, are in transit to or from the NAT MNPS airspace;

*Note.— The NAT MNPS area is set forth in NAT SUPPS, Chapter 4.*

ed) 167 km (90 NM) between aircraft not approved RNP 10 or RNP 4 operating between the United States, Canada or Bermuda and points in the CAR Region in the control areas of San Juan and New York Oceanic FIRs and the Atlantic portion of the Miami Oceanic control area;

de) 185 km (100 NM) west of 60°W (only in oceanic areas) between aircraft not covered in a), b) or c) above, and between aircraft in the control area of Piarco FIR ~~west of 55°W~~; and

ef) 223 km (120 NM) between aircraft operating east of 60°W in the New York Oceanic FIR, ~~and between aircraft in the control area of Piarco FIR east of 55°W~~;

except that lower minima as detailed in 5.4.1.1.2 of the PANS-ATM may be applied, or further reduced in accordance with 5.11, where the conditions specified in the relevant PANS-ATM provisions are met (see 5.4)



## 6.2.2 Longitudinal (P-ATM, Chapter 5)

~~6.2.2.1~~ Between turbo-jet aircraft at or above FL 280 on oceanic published routes operating in the West Atlantic Route System (WATRS), or at or above FL 280 operating west of 60°W when transitioning to or from the WATRS area, the longitudinal separation shall be in accordance with the PANS-ATM, 5.4.2.4.

*Note.—The WATRS area is defined as beginning at a point 27°00'N/77°00'W direct to 20°00'N/67°00'W direct to 18°00'N/62°00'W direct to 18°00'N/60°00'W direct to 38°30'N/60°00'W direct to 38°30'N/69°15'W, thence counterclockwise along the New York Oceanic control area/FIR boundary to the Miami Oceanic control area/FIR boundary, thence southbound along the Miami Oceanic control area/FIR boundary to the point of beginning.*

6.2.2.21 Between turbo-jet aircraft operating at or above FL 200 and west of 60°W within the Houston Oceanic, applicable parts of Mexico FIR (Merida and Monterrey CTAs), Miami Oceanic and San Juan CTA/FIR control areas, the longitudinal separation with Mach number technique applied in accordance with the relevant provisions of the PANS-ATM, 5.4.2.4, shall be:

- a) 15 minutes; or
- b) this separation may be reduced to:
  - 1) 10 minutes at the entry point into oceanic controlled airspace, if the preceding aircraft is maintaining a speed of at least Mach 0.03 greater than that of the following aircraft; or
  - 2) 5 minutes at the entry point into oceanic controlled airspace, if the preceding aircraft is maintaining a speed of at least Mach 0.06 greater than that of the following aircraft.

6.2.2.32 Between aircraft operating below FL 200 west of 55°W and between aircraft operating at all levels east of 55°W within the San Juan and Piarco FIRs and the Paramaribo and Rochambeau upper flight information regions (UIRs), 20-minute longitudinal separation shall be applied. This minimum may also be applied if the aircraft have not reported over the same reporting point when it is possible to ensure, by radar or other means approved by the State, that the appropriate time interval will exist at the common point from which they follow either the same track or continuously diverging tracks.

6.2.2.43 Between turbo-jet aircraft meeting the MNPS and operating in the New York Oceanic control area wholly or partly in MNPS airspace, the minimum longitudinal separation with Mach number technique shall be in accordance with the PANS-ATM, 5.4.2.4. In cases where the aircraft concerned have reported over a common point and follow continuously diverging tracks until some other form of separation is provided:

- a) at least 10-minute longitudinal separation shall exist at the point where the tracks diverge; or
- b) at least 5-minute longitudinal separation will exist where lateral separation is achieved; and

- c) lateral separation will be achieved at or before the next significant point (normally 10 degrees of longitude along track(s)) or, if not, within 90 minutes of the time the second aircraft passes the common point or within 1 112 km (600 NM) of the common point, whichever is estimated to occur first.

6.2.2.54 For turbo-jet aircraft meeting the MNPS and operating in the New York Oceanic control area wholly or partly in MNPS airspace but not meeting the requirements of 6.2.2.4, 15-minute longitudinal separation shall be applied.

6.2.2.65 Between aircraft operating outside MNPS airspace in the New York Oceanic control area the minimum longitudinal separation based on time shall be:

a) 15 minutes between turbo-jet aircraft, provided the Mach number technique is applied and, whether in level, climbing or descending flight:

- 1) the aircraft concerned have reported over a common point and follow the same track or continuously diverging tracks until some other form of separation is provided; or
- 2) if the aircraft have not reported over a common point, it is possible to ensure, by radar or other means approved by the State, that the appropriate time interval will exist at the common point from which they follow either the same track or continuously diverging tracks;

b) 10 or 5 minutes only when it is possible to ensure, by radar or other means approved by the State, that the required time interval exists and will exist at the common point, provided the preceding aircraft is maintaining a greater Mach number than the following aircraft in accordance with the following:

- 1) 10 minutes if the preceding aircraft is maintaining a speed of at least Mach 0.03 greater than that of the following aircraft; and
- 2) 5 minutes if the preceding aircraft is maintaining a speed of at least Mach 0.06 greater than that of the following aircraft;

c) 20 minutes between turbo-jet aircraft not covered by a) and b);

d) 20 minutes between other than turbo-jet aircraft operating ~~along routes extending between the United States, Canada or Bermuda and Caribbean terminals, or between the United States or Canada and Bermuda~~ in the West Atlantic Route System (WATRS) area; and

e) 30 minutes between other than turbo-jet aircraft not covered in d).

6.2.2.6 Between aircraft operating outside MNPS airspace in the New York Oceanic ~~control area~~ **FIR** the minimum longitudinal separation based on distance shall be:

a) 93 km (50 NM) between aircraft operating within the control area of the New York Oceanic FIR provided that the following conditions are met:

- 1) ~~navigation~~—RNP 10 or RNP 4 **navigation** specification in accordance with the provisions of 4.1.1.1 or 4.1.2.1, respectively;
- 2) communication – CPDLC shall be monitored against RCP 240; and

3) surveillance – ADS-C shall be monitored against RSP 180.

*Note – Guidance concerning RCP and RSP specifications, application and performance requirements can be found in the Global Operational Data Link Document (GOLD).*

b) 55.5 km (30 NM) between aircraft operating within the control area of the New York Oceanic FIR provided that the following conditions are met:

1) ~~navigation~~—RNP 4 specification *navigation* in accordance with the provisions of 4.1.2.1;

2) communication – CPDLC shall be monitored against RCP240;

3) surveillance – ADS-C shall be monitored against RSP 180.

*Note – Guidance concerning RCP and RSP specifications, application and performance requirements can be found in the Global Operational Data Link Document (GOLD).*

d) **Date when proposal received:**

**XXX**

e) **Proposer's reason for amendment:**

- 1) In accordance with ICAO Doc 4444, the internationally agreed data-link-based separation minima values available for application in oceanic and remote airspace are 50NM longitudinal, 30NM longitudinal and 30NM lateral. Specifics for 30NM lateral separation are provided in paragraph 5.4.1.2.1.6, "Lateral separation of aircraft on parallel or non-intersecting tracks or ATS routes," with references to pertinent ICAO documents cited therein. Paragraph 5.4.2.6.4, "Longitudinal Distance-Based Separation Minima in an RNP RNAV Environment Using ADS-C" provides the corresponding details for the 50 NM and 30NM longitudinal separation minima, again with references to other relevant ICAO documents.
- 2) In non-radar oceanic airspace where traffic is increasing by approximately five ~~percent~~*per cent* a year, flight efficiency (e.g., user preferred routes and altitude profiles) is dependent on reductions in the horizontal separation standards. ICAO ~~has developed guidelines-provisions~~ for oceanic separation standards of 50NM longitudinal, 30NM longitudinal and 30NM lateral ~~provided a set of requirements~~ are met or exceeded. These requirements include that aircraft be authorized for RNP-10 or RNP-4, direct pilot-controller communication or CPDLC, and ADS-C position reports.
- 3) The use of these separation standards has been implemented within the Australian Eastern Oceanic airspace, Auckland Oceanic FIR, Honiara FIR, Nauru FIR, Nadi FIR and the Oakland Oceanic FIR. In December 2005, 30NM longitudinal and 30NM lateral operational trials began in Oakland Air Route Traffic Control Center (ARTCC) Oceanic Control Sector 3. Effective June 2007, Oakland ARTCC has applied 30NM longitudinal and 30NM lateral separation to pairs of suitably equipped aircraft throughout the Oakland Oceanic FIR.
- 4) This amendment proposes to allow 50NM longitudinal, 30NM longitudinal and 30NM lateral to be applied in the New York Oceanic FIR.

5) The application of the reduced minima is to enable level changes to transition through or to transition to the level of a longitudinally adjacent aircraft not presently available with the 10-minute longitudinal separation standard with Mach Number Technique (MNT) now in place. A level change is known to provide reduced fuel burn if an aircraft is transitioning in order to operate at a level recommended, for example, by the aircraft's flight management system; facilitating more level changes thus results in greater overall system fuel efficiency. A level change initiated by air traffic control (ATC) in the New York Oceanic FIR could reduce operational complexity at intersections of published routes in WATRS airspace, for example, thereby reducing controller workload relative to the present system; facilitating more level changes thus results in lowered operational complexity.

6) The ~~ICAO Review of the General Concept of Separation Panel (RGCSP), later to be subsumed under the Separation and Airspace Safety Panel (SASP) and the~~ North Atlantic System Planning Group (NAT SPG) has ~~ve~~ adopted a Target Level of Safety (TLS) of  $5 \times 10^{-9}$  fatal accidents per flight hour per dimension to pertain for implementation of separation reductions after the year 2000. As a consequence, The FAA William J. Hughes Technical Center (WJHTC) assessed the lateral separation minimum against this TLS. The resulting "Safety Assessment to Support Use of 30 NM Lateral Separation Standard in the New York ~~Oceanic FIR~~Airspace" was developed. When separation of 50NM longitudinal, 30NM longitudinal and 30NM lateral is initially implemented in the New York Oceanic ~~airspace~~FIR, the risk estimate is expected to be below the TLS recommended ~~for use~~ by the regional planning group. The assessment shows that given prevailing conditions and expected performance, the separation reduction in the New York Oceanic ~~airspace~~-FIR will meet international guidelines for implementation.

f) **Proposed implementation date of the amendment:**

~~Upon~~ *As soon as practicable after* approval ~~by the Council.~~

g) ~~Action by the Secretary General:~~

~~The pP~~ Proposal ~~has been~~ circulated to the following States and international organizations:.

XXX

h) **Secretariat's comments:**

-----