

**Draft Implementation Plan for the Trial Application of RLatSM as endorsed by NAT IMG/38
and presented to NAT SPG/47**

1. Introduction

- 1.1 Advancements in aircraft avionics and air traffic management flight data processing systems have driven analysis of whether the lateral separation standard in the current NAT MNPS airspace can be reduced to increase the number of tracks available and therefore increase capacity at optimum flight levels. The proposed change is to reduce lateral separation for aircraft operating at the flight levels associated with the NAT Region Data Link Mandate, where the carriage and operation of data link equipment is mandatory. This can be practically achieved by establishing tracks which are spaced by ½ degree of latitude. This track spacing initiative will be referred to as Reduced Lateral Separation Minimum (RLatSM).
- 1.2 This implementation plan follows the guidelines provided in ICAO Doc 9689 (Manual on Airspace Planning Methodology for the Determination of Separation Minima).

2. Identification of the Need for Change

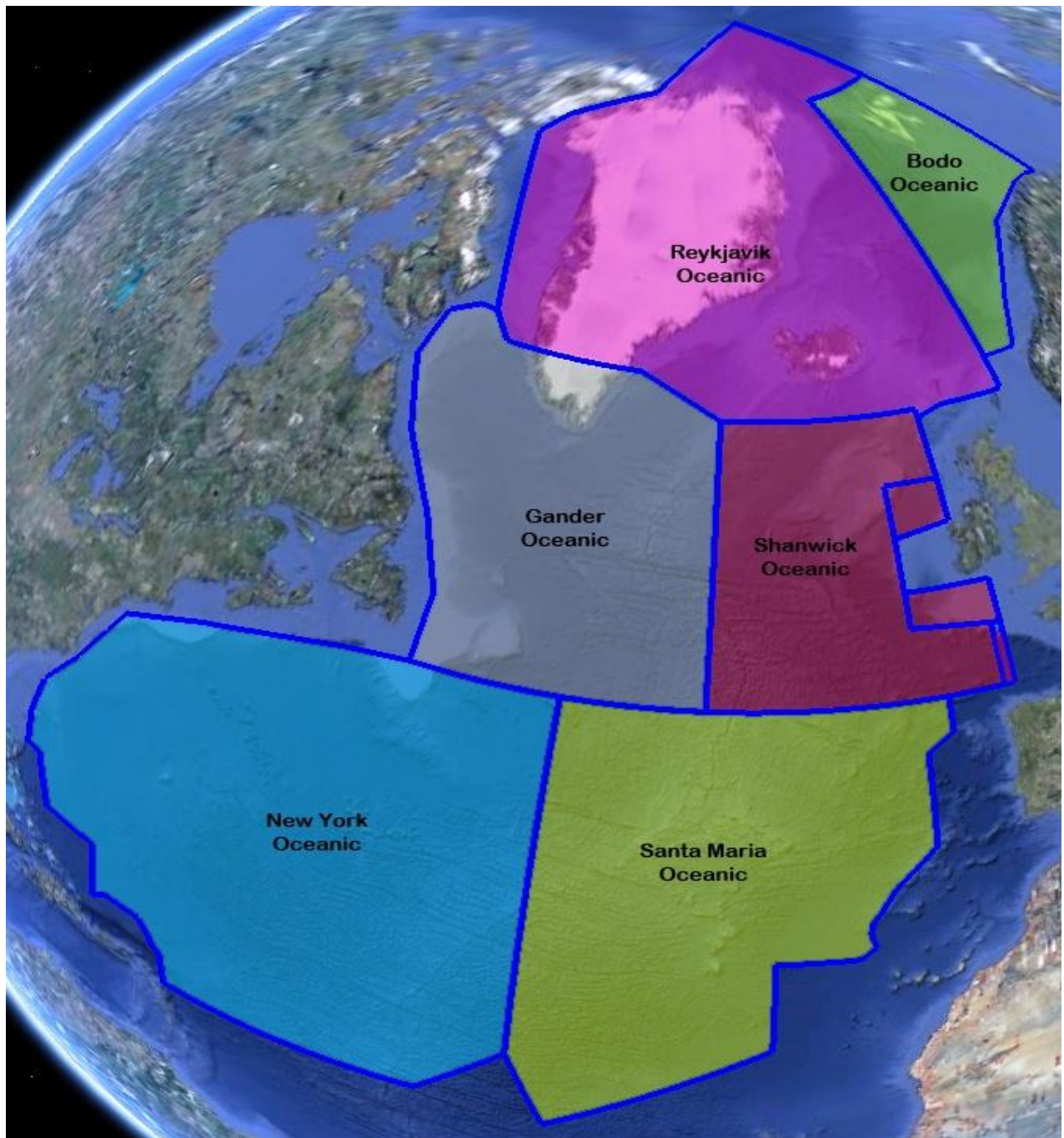
- 2.1 NAT customers request more fuel-efficient flight profiles and routes that will reduce operating costs and show a return on operator investment in aircraft avionics. Applying reduced lateral separation is expected to enhance the provision of fuel-efficient profiles and routes with minimal change to NAT operations.
- 2.2 The new separation standard is expected to result in a reduction in fuel burn and a consequent reduction in greenhouse gas emissions through an increased likelihood of flights being able to operate at their optimum flight levels and routes.

3. Description of the Current Airspace and the CNS/ATM Systems

3.1 Airspace Structure

- 0.1.1 The responsibility for air traffic control services within the North Atlantic (NAT) Region is shared among seven states: Canada, Denmark, Iceland, Norway, Portugal, the United Kingdom and the United States.
- 0.1.2 The NAT Region is Class A airspace (at and above FL55); in which Instrument Flight Rules (IFR) apply at all times, except in the Sondrestrom FIR where Class A airspace begins above FL195.
- 0.1.3 The NAT airspace is divided into seven Flight Information Regions (FIRs) or Control Areas (CTA) for the implementation of the Communications Navigation Surveillance/Air Traffic Management (CNS/ATM) systems. The NAT Region comprises the following FIRs/CTAs: Bodø Oceanic, Gander Oceanic, New York Oceanic, Reykjavik, Santa Maria, Shanwick. and Søndre Strømfjord-
- 0.1.4 Traffic is controlled by Oceanic centres at Reykjavik, Bodø, Gander, New York, Santa Maria, Søndre Strømfjord and Prestwick.

0.1.5 The following diagram illustrates;



0.1.6 NAT traffic is predominantly commercial. International General Aviation (IGA) Business aircraft comprise a high proportion of the higher altitude airspace operations.

0.1.7 For most of the North Atlantic (NAT) airspace radar surveillance and VHF voice communications is unavailable. Therefore, procedural control is exercised. The exception is the south and east sector of the Reykjavik area, where radar aided services are provided.

- 3.2 Strategic Lateral Offset Procedure (SLOP)
- 3.3 3.2.1 Strategic lateral offsets of one or two miles right of a route or track centreline have been introduced as a means of reducing collision risk and is now standard operating procedure in the entire NAT Region.
- 3.4 Airborne Collision Avoidance Systems (ACAS)
 - 3.3.1 In addition to the requirements of Annex 6, (Part I, paragraph 6.16 and Part II, paragraph 6.14) ACAS II shall be carried and operated in the NAT Region by all turbine-engined aeroplanes having a maximum certificated take-off mass exceeding 5 700 kg or authorized to carry more than 19 passengers.

4. Traffic Patterns

- 4.1 General
 - 4.1.1 The traffic is dominated by three major axes. First, there is the axis linking Europe (and the Middle East) to North America (excluding Alaska). Second, there is the axis linking the Eastern seaboard of North America with the Caribbean, South America and Bermuda. Third, there is the axis linking Europe to the Caribbean and South America. A substantial proportion of NAT traffic, namely that operating between cities in Europe and those in North America operate on the first axis.
 - 4.1.2 The major traffic flow between Europe and North America takes place in two distinct traffic flows during each 24-hour period due to passenger preference, time zone differences and the imposition of night-time noise curfews at the major airports. The majority of the Westbound flow leaves European airports in the late morning to early afternoon and arrives at Eastern North American coastal airports typically some 2 hours later - local time - given the time difference. The majority of the Eastbound flow leaves North American airports in mid/late evening and arriving in Europe early to mid morning - local time. Consequently, the diurnal distribution of this traffic has a distinctive tidal pattern characterised by two peaks passing 30° W, the Eastbound centred on 0400 Universal Co-ordinated Time (UTC) and the Westbound centred on 1500 UTC.
- 4.2 North Atlantic Organised Track System (NAT OTS)
 - 4.2.1 Although a number of fixed trans-Atlantic tracks exist, the bulk of traffic operates on tracks, which vary from day to day dependent on meteorological conditions. The variability of the wind patterns would make a fixed track system unnecessarily penalising in terms of flight time and consequent fuel usage. Nevertheless, the volume of traffic along the core routes is such that a complete absence of any designated tracks (i.e. a free flow system) would currently be unworkable given the need to maintain procedural separation standards in airspace largely without radar surveillance.
 - 4.2.2 As a result, an OTS is set up on a diurnal basis for each of the Westbound and Eastbound flows. Each core OTS is comprised of a set, typically 4 to 7, of parallel or nearly parallel tracks, positioned in the light of the prevailing winds to suit the traffic flying between Europe and North America.
 - 4.2.3 The main difference between the North American-Caribbean traffic axis and that between Europe and North America is that the former is constrained by the fixed track structure. Some of these fixed tracks are tied to Non Directional Beacon (NDB) and Very High Frequency Omni directional Range/Distance Measuring Equipment (VOR/DME) radio navigation aids and, where this is the case, appropriate separation standards apply. Where tracks are beyond

the range of such aids, long-range navigation systems are required. However, this part of the NAT Region is not yet designated as Minimum Navigation Performance Specifications (MNPS) Airspace and the 60 NM lateral separation minimum does not apply (see below).

4.2.4 The designation of an OTS facilitates a high throughput of traffic by ensuring that aircraft on adjacent tracks are separated for the entire oceanic crossing - at the expense of some restriction in the operator's choice of track. In effect, where the preferred track lies within the geographical limits of the OTS, the operator is obliged to choose an OTS track or fly above or below the system. Where the preferred track lies clear of the OTS, the operator is free to fly it by nominating a random track. Trans-Atlantic tracks, therefore, fall into three categories: OTS, Random or Fixed.

4.3 Minimum Navigation Performance Specification

4.3.1 MNPS airspace has been established between FL285 and FL420. Longitudinal separation between in-trail aircraft using the Mach Number Technique is 10 minutes - a reduced longitudinal separation minimum (RLongSM) of 5 minutes between eligible aircraft pairs is to be trialed commencing 2010. Aircraft tracks are separated using the earth's coordinate system to define tracks and effect separation laterally by *60 NM* or *1 degree* provided a portion of the route is within, above, or below MNPS airspace. Given the curvature of the earth, 'Gentle Slope Rules' have been adopted to ensure that the actual separation never falls below distances which vary with latitude but never fall short of 50.5 NM. To ensure the safe application of the reduced separation minimum, only MNPS certified aircraft are permitted to operate within the MNPS airspace. The current MNPS was established to ensure that the risk of collision as a consequence of a loss of horizontal separation would be contained within an agreed Target Level of Safety (TLS).

4.4 Reduced Vertical Separation Minimum (RVSM)

4.4.1 RVSM airspace has been established within the confines of MNPS airspace and associated transition areas. In RVSM airspace, 1000 ft vertical separation is applied between approved aircraft. Currently, RVSM is only applied between FL 290 and FL 410 inclusive. To ensure the safe application of the separation minimum, only RVSM approved aircraft are allowed to operate within RVSM airspace. Aircraft are monitored to ensure that the TLS is being met.

4.5 Aircraft Equipage in Target Environment

4.5.1 The on-board equipment that provides the CPDLC and ADS-C capabilities required for the use of RLatSM is provided by FANS 1/A or equivalent. The State of Registry or the State of the Operator should verify that the equipment has been certified in accordance with the requirements specified in RTCA DO-258A/EUROCAE ED-100A and RTCA DO-306/ED 122 (see also paragraph 8.1.4) or equivalent.

4.5.2 The navigational accuracy component to support RLatSM will be provided by the RNP 4 navigation specification which explicitly requires GNSS.

4.5.3 The following performance values are valid for phase one of the RLatSM operational trial since the current CRM only supports same direction traffic.

- a) Required navigation specification is RNP 4; and
- b) due to the fact that all RNP 4 approved aircraft are GNSS equipped the standard deviation of lateral track errors is assumed to be less than 1.852 km (1 NM); and

- c) the proportion of the total flight time spent by aircraft 27.8 km (15 NM) or more off the cleared track shall be less than 1.07×10^{-5} ; and
- d) the proportion of the total flight time spent by aircraft between 46.3 and 64.8 km (25 and 35 NM) off the cleared track shall be less than 2.36×10^{-6} .

4.5.4 ADS-C position reports provide time-keeping accuracy of ± 1 second or better (Annex 2 paragraph 3.5.3 refers).

5. Determination of the Proposed System

- 5.1 RLatSM will be introduced to improve the efficiency of NAT operations. Initially it will involve establishment of tracks between core OTS published routes using the same vertical and longitudinal standards as conventional tracks.
- 5.2 RLatSM spacing between core tracks in the NAT OTS will be $\frac{1}{2}$ degree as measured between segments anchored every 10^0 meridians.
- 5.3 RLatSM separation between adjacent tracks will be at least 25 NM as measured perpendicularly between tracks.
- 5.4 FDPs will receive and process position (POS) reports to an accuracy of ± 1 second or better.
- 5.5 In accordance with the outcome of NAT IMG/38, RLatSM will be implemented using the following phased approach:
 - a) Phase 1 – 2014/2015 – introduce 25 NM lateral separation by implementing $\frac{1}{2}$ degree spacing between the two core tracks, within the vertical limits applicable to the airspace associated with the NAT Region Data Link Mandate; only aircraft with the appropriate RNP approval, ADS-C and CPDLC would be permitted to operate on the $\frac{1}{2}$ degree spaced tracks.
 - b) Phase 2 – To Be Determined – introduce 25 NM lateral separation by implementing $\frac{1}{2}$ degree spacing through the entire NAT Organised Track System (OTS), within the vertical limits applicable to the airspace associated with the NAT Region Data Link Mandate; only aircraft with the appropriate RNP approval, ADS-C and CPDLC would be permitted to operate on the $\frac{1}{2}$ degree spaced tracks.
 - c) Phase 3 – To Be Determined – introduce 25 NM lateral separation throughout the entire NAT Region, including for converging and intersecting track situations, within the vertical limits applicable to the airspace associated with the NAT Region Data Link Mandate. The application of the reduced separation standard between targets of opportunity should be permissible in any part of the NAT Region outside the OTS (mixed mode operations).

Note 1: The final decision to implement segregated airspace in the OTS should be supported by:

- a) *the establishment of a target percentage of flights that should be RLatSM-eligible in order for segregated tracks and FL's to be implemented without causing significant disruption to air traffic in the NAT or disproportionate dis-benefit to the NAT operator fleet; and.*
- b) *an assessment of NAT operator/aircraft fleet capability to meet RCP, RNP, ADS-C and CPDLC requirements in the timeframes proposed including a projection of the percentage of flights to be conducted by RLatSM-eligible aircraft.*

Note 2: The vertical limits associated with each Phase of the RLatSM implementation will be harmonized with the vertical limits of the airspace associated with the NAT Region Data Link Mandate, where the carriage and operation of data link equipment is mandatory.

Note 3: As regards the planned phased introduction of segregated airspace, the NAT SPG supported the philosophy that expanding such airspace beyond the Phase 1 limits should be based upon a positive business case. The NAT SPG has interpreted “business case” as a clear indication from airspace users or a quantified benefits analysis.

Note 4: When it is feasible, the target day, month and year that implementation is planned should be specific and States and operators informed in order to give States and operators sufficient lead time to prepare. The dates, to be specified at a later date by the NAT IMG; will be harmonized with the dates applicable to the MNPS to PBN Transition Plan for the ICAO NAT Region.

Note 5: Phase 2 would likely enable an overall reduction of the lateral extent of the OTS, thereby increasing the flexibility for random operations and providing both economic and environmental benefits.

5.6 The introduction of RLatSM to any of the FIRs within the NAT will require changes to the associated ATC system. Respective ANSP FDPs will need to depict and conflict probe the RLatSM tracks.

5.7 Operational Application

5.7.1 In order to issue a flight with an RLatSM clearance, the following conditions must be met:

- a) the aircraft concerned are RNP4 approved and confirm navigating using GNSS;
- b) tracks are established with ½ degree spacing and aircraft are capable of navigating the waypoints;
- c) the aircraft concerned will provide ADS-C position reports; and
- d) CPDLC communication will be established with the aircraft concerned to minimise the time required for any interventions. It is also noted that the use of CPDLC to upload RLatSM clearances would significantly decrease the risk of FMS waypoint input errors, should this functionality be enabled.

5.8 Concept of Use (Phase 1)

Introduction

Commencing at a to be determined date within the 2014/2015 time frame, a reduced lateral separation minimum (RLatSM) of 25 Nautical Mile (NM) will be applied in the current North Atlantic (NAT) minimum navigation performance specification (MNPS) airspace between flight planned tracks of aircraft authorized for Required Navigation Performance 4 (RNP 4) operations and having Automatic Dependent Surveillance – Contract (ADS-C) and Controller-Pilot Data Link Communications (CPDLC) capability. Initial implementation will involve insertion of a single, unidirectional track within the NAT Organised Track System (OTS).

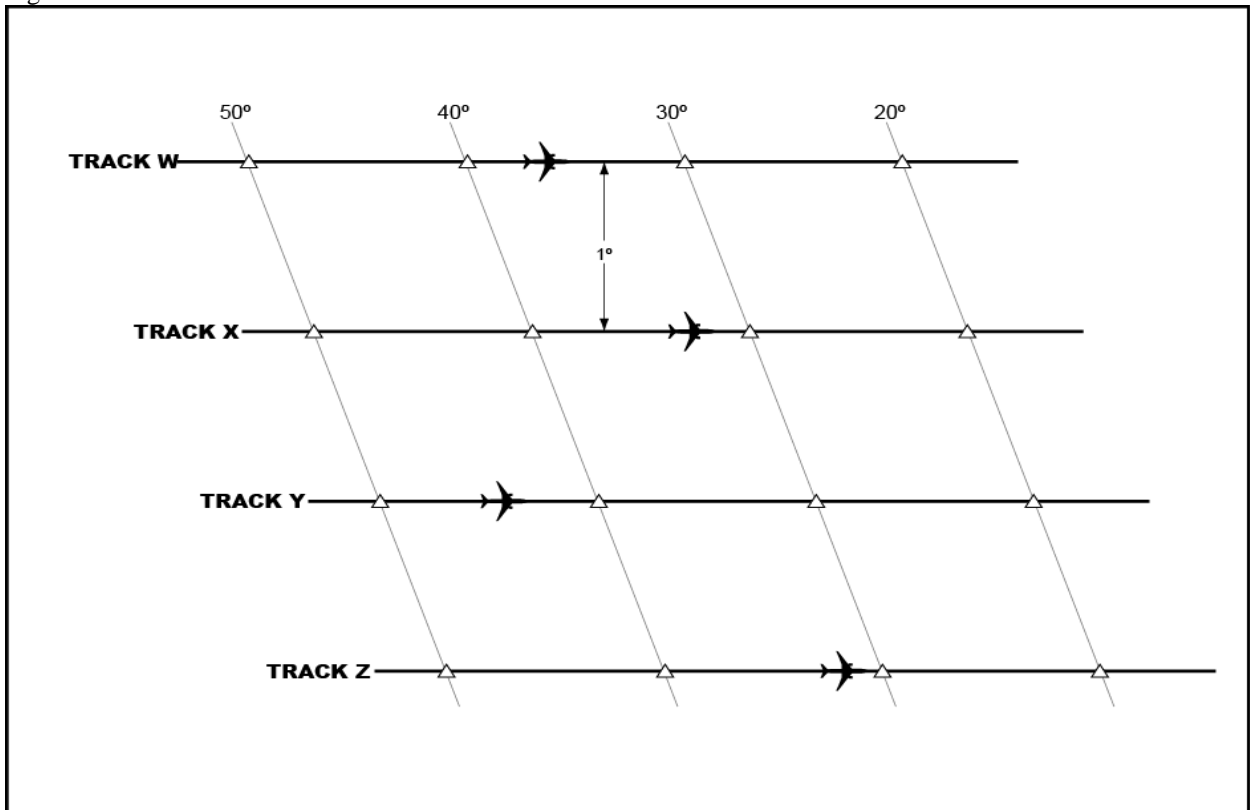
Note: When it is feasible, the target day, month and year that implementation is planned should be specific and States and operators informed in order to give States and operators sufficient lead time

to prepare. The dates, to be specified at a later date by the NAT IMG; will be harmonized with the dates applicable to the MNPS to PBN Transition Plan for the ICAO NAT Region.

Background

All flights in NAT MNPS airspace which generally route in an eastbound or westbound direction are normally flight planned so that specified ten degrees of longitude (20°W, 30°W, 40°W etc.) are crossed at whole degrees of latitude. Aircraft tracks are separated using the earth's coordinate system to define tracks and effect separation laterally by 60 NM or 1 degree (see Figure 1) provided a portion of the route is within, above, or below MNPS airspace. Given the curvature of the earth, 'Gentle Slope Rules' have been adopted to ensure that the actual separation never falls below distances which vary with latitude but never fall short of 50.5 NM.

Figure 1

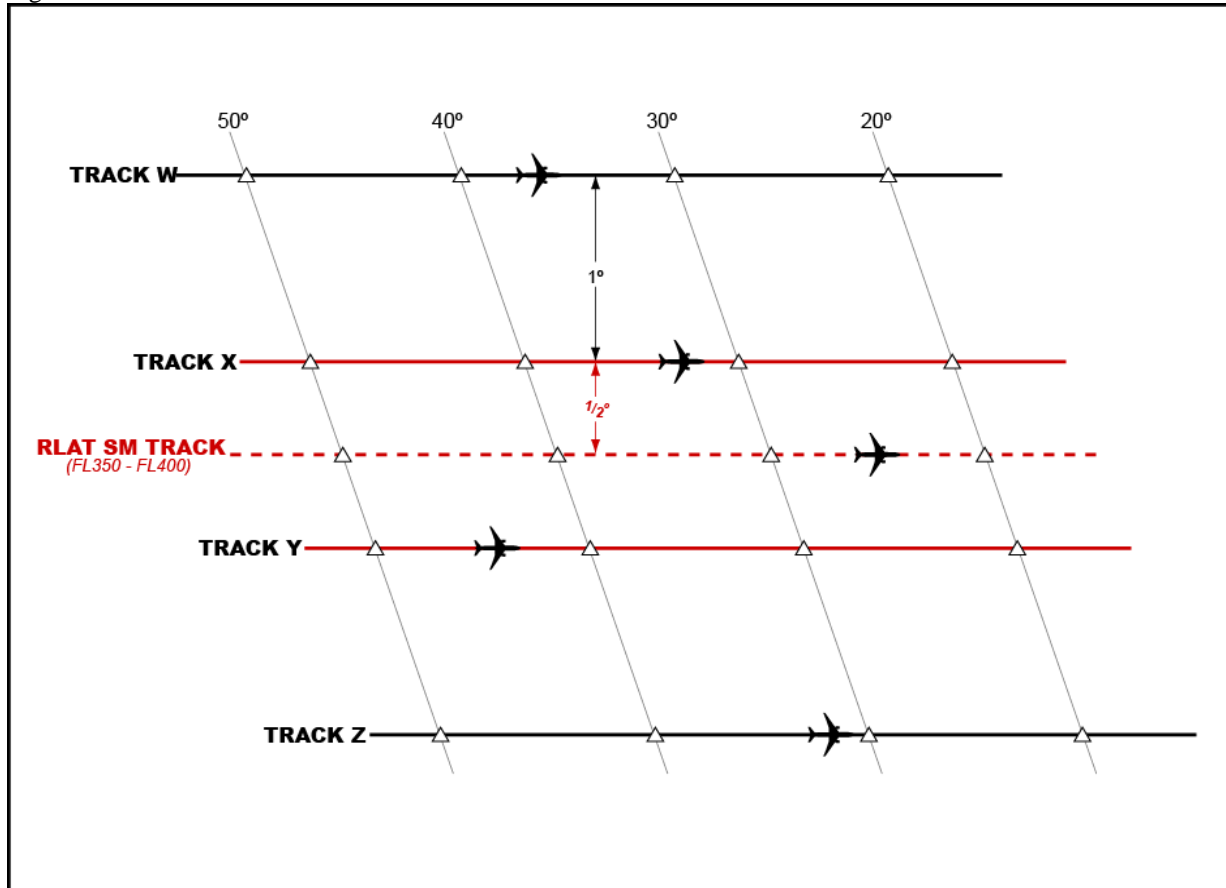


RLatSM Objectives

Collision risk modelling work conducted within the NAT region has determined that aircraft certified RNP 4, a navigation specification requiring navigation using GNSS, can be separated by 25 NM. The objectives of RLatSM implementation are to:

- Reduce lateral track spacing from one degree (nominal 60 NM with gentle slope rules) to one half degree (nominal 30 NM with gentle slope rules) from FL350 to FL400 between aircraft authorized RNP 4 and having ADS-C and CPDLC capability;
Note: Phase 1 of RLatSM implementation will involve insertion of a single, unidirectional track within the NAT OTS with half degree spacing between that track and the adjacent tracks immediately to the north and south. All other tracks within the OTS and those randomly flight planned will be spaced by one degree (see Figure 2). Future phases are anticipated to encompass first the entire OTS and then the entire NAT region within the vertical limits of airspace associated with the NAT Region Data Link Mandate.

Figure 2



- increase the number of tracks available and therefore increase capacity at optimum flight levels;
- enhance the provision of fuel-efficient profiles and routes for NAT customers to reduce operating costs with minimal change to NAT operations;
- allow for reduction in fuel burn and a consequent reduction in greenhouse gas emissions through an increased likelihood of flights being able to operate at their optimum flight levels and routes.

OTS Design and Promulgation

The eastbound OTS is produced by Gander Oceanic Area Control Centre (OAC) and the westbound OTS by Shanwick OAC (Prestwick), each incorporating any requirement for tracks within the New York, Reykjavik, Bodø and Santa Maria Oceanic Control Areas (OCAs). A full description of the OTS concept is contained within ICAO NAT Doc 007 (Guidance concerning Air Navigation in and above the NAT MNPSA).

The use of RLatSM tracks requires ½ degree of latitude coordinates to be filed at each ten degrees of longitude (20°W, 30°W, 40°W etc.) and also the establishment of additional oceanic entry and exit points located midway between the existing points.

OTS samples with Phase 1 of RLatSM implementation are at Figure 3 and Figure 4 below.

Figure 3

TRACK	OCEAN FIX	ROUTE				OCEAN FIX	ALTITUDES
U	STEAM OYSTR	55/50	57/40	59/30	59/20	GOMUP GINGA	320 330 340 350 360 370 380 390 400
V	REDBY CARPE	54/50	56/40	58/30	58/20	SUNOT ELPIN	320 330 340 350 360 370 380 390 400
W	YAY HECKK	53/50	55/40	57/30	57/20	PIKIL ODLUM	320 330 340 350 360 370 380 390 400
WX	WXQX1 WXQX2	5230/50	5430/40	5630/30	5630/20	WXPk1 WXPk2	350 360 370 380 390 400
X	DOTTY CRONO	52/50	54/40	56/30	56/20	RESNO BABAN	320 330 340 350 360 370 380 390 400
Y	CYMON DENDU	51/50	53/40	55/30	55/20	DOGAL BURAK	320 330 340 350 360 370 380 390 400
Z	YQX KOBEV	50/50	52/40	54/30	54/20	MALOT DOLIP	320 330 340 350 360 370 380 390 400

Figure 4

A	SUNOT	58/20	58/30	57/40	55/50	OYSTR STEAM	310 320 330 340 350 360 370 380 390
B	PIKIL	57/20	57/30	56/40	54/50	CARPE REDBY	310 320 330 340 350 360 370 380 390
C	RESNO	56/20	56/30	55/40	53/50	HECKK YAY	310 320 330 340 350 360 370 380 390
CD	CDPK1 CDPK2	5530/20	5530/30	5430/40	5230/50	CDQX1 CDQX2	350 360 370 380 390 400
D	DOGAL	55/20	55/30	54/40	52/50	CRONO DOTTY	310 320 330 340 350 360 370 380 390
E	MALOT	54/20	54/30	53/40	51/50	DENDU CYMON	310 320 330 340 350 360 370 380 390
F	LIMRI	53/20	53/30	52/40	50/50	KOBEV YQX	310 320 330 340 350 360 370 380 390

RLatSM tracks require all aircraft operating on the tracks immediately adjacent to them to contain RLatSM eligible aircraft at the designated flight levels. All RLatSM affected tracks and flight levels will be identified as part of the track message content. Flights not eligible for RLatSM separation are not to flight plan on those tracks or flight levels.

Implementation of RLatSM will have no requirement for alteration of OTS promulgation procedures.

Oceanic Clearance Production and Delivery

NAT oceanic clearance procedures are contained within ICAO NAT Doc 007 (Guidance concerning Air Navigation in and above the NAT MNPSA) and further detailed in NAT OPS Bulletins for the Gander Reykjavik, Santa Maria and Shanwick OACs.

Implementation of RLatSM currently contains no requirement for alteration of oceanic clearance procedures. It has been recognized that the upload of route clearances containing ½ degree coordinates would benefit from the use of CPDLC technology.

6. Identification of the Method of Safety Assessment

6.1 Collision risk for same direction traffic only has been estimated using the Reich model. This is considered to be applicable under phase 1 of the RLatSM operational trial.

6.1.1 Calculations used in the safety assessment are sufficient to allow provisions for the application of SLOP where RLatSM is being applied.

6.1.2 Additional collision risk modelling work will be necessary to consider opposite direction traffic for application in future phases of RLatSM implementation. It is not anticipated that this will have an effect on the core navigational component but may have some effect on the choice of the limit associated with maximum acceptable rate of large navigation errors.

7. Evaluation of the Risk

7.1 The TLS for NAT MNPS airspace in the lateral dimension is currently 20×10^{-9} fatal accidents per flight hour (fapfh). For RLatSM the TLS will be 5×10^{-9} fapfh. Ongoing monitoring will determine whether the TLS in the vertical and longitudinal dimensions is affected by the introduction of RLatSM.

- 7.2 Hazard Identification and Risk Analyses (HIRA) to assess the impact of the proposed change on the current system shall be carried out. These will be made available to the appropriate regulatory authorities and planning bodies as they are completed.
- 7.3 In accordance with NAT SPG Conclusion 45/22, the NAT Implementation Management Group will:
- a) ensure that the errors arising from the input and display of ½ degree coordinates (for example, 48°30" North) are subject to specific hazard analysis and mitigation developed to address the identified hazards;
 - b) develop a robust plan to capture and contain errors arising from flight crews misconstruing ½ degree coordinates as a full degree coordinate or vice versa (for example, flying to 43°30" rather than 43°00" or vice versa); and
 - c) ensure that the results of a) and b) are an integral part of the implementation plan for reduced lateral separation.

8. Satisfaction of Safety Criteria

8.1 System Performance Criteria

8.1.1 Aircraft will be required to meet communication, navigation and surveillance requirements for RLatSM operations.

8.1.2 Aircraft will be authorized for an RNP 4 navigation specification and the aircraft found eligible for RNP 4 operations by the State of the Operator or the State of Registry, as appropriate.

Note: Volume II, Part C, Chapter 1 of the Performance-based Navigation Manual (Doc 9613) provides guidance on the authorization of operators and aircraft for RNP 4. Paragraph 1.3.3.1 contains a statement that "GNSS must be used and can be used as either a stand-alone navigation system or as one of the sensors in a multi-sensor system".

8.1.3 GNSS may be approved using one of the following FAA Technical Standard Orders (TSO): C129a, C145c, C146c, or C196 or, one of the following Joint Technical Standard Orders (JTSO): C129a or C146. TSO C115b and JTSO C115b are applicable to GNSS equipment using Aircraft Autonomous Integrity Monitoring. Airworthiness approval for GNSS can be obtained using the guidance contained in the advisory circulars listed below (or their equivalent):

- a) for multi-sensor systems integrating GNSS: U.S. FAA AC 20-130 (as amended); and
- b) for all GNSS equipment: U.S. FAA AC 20-138 (as amended).

8.1.4 Operators intending to conduct RLatSM operations should obtain CPDLC/ADS-C operational authorization, where applicable, either from the State of Registry or the State of the Operator. The State of Registry or the State of the Operator should verify that the equipment has been certified in accordance with the requirements specified in RTCA DO-258A/EUROCAE ED-100A (or equivalent) and DO-306/ED-122, Annex B (or equivalent).

8.1.5 RCP240 as defined in RTCA DO-306/ED-122 is the guideline against which actual communication performance will be measured. Surveillance performance specification 180 as defined in the same standard is the guideline against which actual surveillance performance will be measured.

- 8.1.6 ANSP FDP software development to support RLatSM is expected to be fully functional in time for operational trials.
- 8.1.7 Air traffic management and control procedures are in development and will be finalized to provide timely training prior to implementation.

9. Modification of the Proposed System

- 9.1 The requirement for modification will be a result of constant assessment of the system performance.

10. Implementation and Monitoring of the Proposed System

- 10.1 It is intended to introduce RLatSM via an operational trial in 2012. Operators will be advised via Aeronautical Information Circular (AIC) of requirements of the trial applicable to operators at least 12 months in advance and of operational trial details no less than three AIRAC cycles (84 days) prior to implementation. Any delay in the implementation date or significant change to the implementation plans shall be notified by NOTAM as soon as the information is available.
- 10.2 Eligible flights are those that meet all of the following requirements:
 - a) MNPS approval
 - b) RNP4 approval;
 - c) ADS-C and CPDLC equipped and, where applicable, authorized; and
 - d) the required CNS systems are operational.
- 10.3 ATS systems use Field 10 (Equipment) of the standard ICAO flight plan to identify an aircraft's data link and navigation capabilities. The operator should insert the following items into the ICAO flight plan (as per the proposed 2012 flight plan format) for FANS 1/A or equivalent aircraft:
 - a) Field 10a (Radio communication, navigation and approach aid equipment and capabilities); insert "J2 – J7" as appropriate to indicate CPDLC FANS 1/A data link equipment.
 - b) Field 10b (Surveillance equipment and capabilities); insert "D1" to indicate ADS with FANS 1/A capabilities.
 - c) Field 18 (Other Information); insert the characters "PBN/" followed by "L1" for RNP4.
- 10.4 RLatSM will not be applied to flights with only HF equipment due to the inherent communication delay.
- 10.5 The use of RLatSM will be enabled by the improved confidence in aircraft position due to the navigation accuracy of GNSS, the position reporting using ADS-C and the intervention capability provided by CPDLC. Controllers will intervene via CPDLC free text or voice as appropriate if an aircraft track was forecast to drop below the specified minimum separation, to prevent loss of separation.
- 10.6 Monitoring of NAT communication system performance and analysis of problem reports will be assisted by the NAT Data Link Monitoring Agency (NAT DLMA).

PLACEHOLDER – CONTINGENCY PROCEDURES IN THE EVENT OF DATA LINK SYSTEM OUTAGE. The RLatSM plan does not currently address contingency procedures for pilots and controllers to follow in the event of data link system outages.

PLACEHOLDER – GUIDANCE IN THE EVENT OF AIRCRAFT CNS SYSTEM MALFUNCTION OR FAILURE. Guidance to pilots and controllers in the event of aircraft system malfunction or failure prior to and after airspace entry.

- END -