

**Final Report of RTCA Task Force 3
Free Flight Implementation**

**Prepared by RTCA Task Force 3
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FOREWORD

This document was prepared by RTCA Task Force 3, *Free Flight Implementation*, and approved by RTCA on October 26, 1995.

RTCA, Inc., is a not-for-profit corporation formed to advance the art and science of aviation and aviation electronic systems for the benefit of the public. The organization functions as a Federal Advisory Committee and develops consensus based recommendations on contemporary aviation issues. RTCA's objectives include but are not limited to:

- coalescing aviation system user and provider technical requirements in a manner that helps government and industry meet their mutual objectives and responsibilities;
- analyzing and recommending solutions to the system technical issues that aviation faces as it continues to pursue increased safety, system capacity and efficiency;
- developing consensus on the application of pertinent technology to fulfill user and provider requirements, including development of minimum operational performance standards for electronic systems and equipment that support aviation; and
- assisting in developing the appropriate technical material upon which positions for the International Civil Aviation Organization and the International Telecommunication Union and other appropriate international organizations can be based.

The organization's recommendations are often used as the basis for government and private sector decisions as well as the foundation for many Federal Aviation Administration Technical Standard Orders.

Since RTCA is not an official agency of the United States Government, its recommendations may not be regarded as statements of official government policy unless so enunciated by the U. S. government organization or agency having statutory jurisdiction over any matters to which the recommendations relate.

Table of Contents

EXECUTIVE SUMMARY	2
ECONOMIC BENEFITS	5
OPERATIONAL CONCEPTS	6
ARCHITECTURE AND TECHNOLOGY	8
TRANSITION STRATEGY AND PLAN	11
CONCLUSION	13
1.0 BACKGROUND	15
1.1 The Charge to the Task Force	15
1.2 RTCA's Role in the Aviation Community	16
1.3 The RTCA Free Flight Implementation Task Force	17
2.0 INTRODUCTION	19
2.1 Guiding Principles for the Transition to Free Flight	20
3.0 OPERATIONAL CONCEPT	23
3.1 Goal	23
3.1.1 Definition	23
3.2.1 The Evolution of Free Flight	24
3.3 Free Flight Concept	25
3.3.1 Domestic En Route Operations	26
3.3.1.1 Protected and Alert Zones	29
3.3.1.2 Dynamic Density	31
3.3.1.3 Adaptive Sectors Concept	33
3.3.1.4 Aircraft-Aircraft Separation Standards	34
3.3.1.5 Special Use Airspace	36
3.3.2 Terminal, Approach, and Airport Surface - The Transition to	37
3.3.3 Traffic Flow Management (TFM)	40
3.3.3.1 Pre-Flight Planning	41
3.3.3.2 Collaborative Decision-Making (CDM) Process	42
3.3.3.3 Controlled Time of Arrival (CTA) vs Estimated Departure Clearance Time (EDCT)	44
3.3.3.4 Handling Uncertainty in Arrival Rates	44
3.3.4 Oceanic En Route Operations	45
3.3.4.1 New Capabilities	46
3.3.4.2 Oceanic Free Flight Scenario	47
4.0 ARCHITECTURE AND TECHNOLOGY	51
4.1 Scope and Purpose	51
4.2 Incremental Evolution to "Free Flight"	52
4.2.1 Phase 1—Near-Term (Now through 1997)	53
4.2.2 Phase 2—Mid-Term (1998 through 2000)	53
4.2.3 Phase 3—Far-Term (2001 and beyond)	54
4.3 Evolution of Free Flight Technologies	59
4.3.1 Domestic U.S. Cruise	59

4.3.1.1	Near-Term Benefits (Now through 1997)	59
4.3.1.1.1	Expand the National Route Program (NRP) (Phase 1 Matrix)	59
4.3.1.1.2	Increased Use of Low Altitude Direct Routes (Phase 2A Matrix)	60
4.3.1.2	Mid-Term Benefits (1998 through 2000)	60
4.3.1.2.1	Increased Use of Low Altitude Direct Routes (Phase 2B Matrix)	60
4.3.1.2.2	Speedier Frequency Change and Transfer of Communication (Phase 3A Matrix)	61
4.3.1.2.3	More Reliable Communication and Faster Clearance Delivery (Phase 3B Matrix)	62
4.3.1.2.4	RVSM Above Flight Level 290 (Phase 4 Matrix)	62
4.3.1.2.5	Better Strategic Route and Altitude Planning Weather Avoidance) (Phase 5 Matrix)	63
4.3.1.2.6	Better Dynamic Routes and Altitudes (Fuel/Time Savings) (Phase 7 & 8 Matrix)	64
4.3.1.3	Far-Term Benefits (2001 and Beyond)	65
4.3.1.3.1	Direct Low-altitude Routes in Non-radar Areas (Phase 6 Matrix)	65
4.3.1.3.2	Reduced Separation Standards (Phase 9A Matrix)	66
4.3.1.3.3	Free Flight in Low Traffic Density Areas, Evolving to Mature Free Flight	67
4.3.2	Terminal, Final Approach and Airport Surface	68
4.3.2.1	Near-Term Benefits (Now through 1997)	68
4.3.2.1.1	Expanded Use of the Aircraft Communications Addressing and Reporting System	68
4.3.2.1.2	Increased Use of Low Altitude Direct Routes - (Phase 2A & 9A Matrices)	69
4.3.2.1.3	Improved Arrival/Departure Procedures - (Phase 3 Matrix)	70
4.3.2.1.4	Low Visibility Surface Operations - (Phase 11A Matrix)	71
4.3.2.2	Mid-Term Benefits (1998 through 2000)	71
4.3.2.2.1	Increased Use of Direct Low Altitude Routes - (Phase 2B and 9B Matrices)	71
4.3.2.2.2	Arrival and Departure Sequencing (Phase 7A Matrix)	72
4.3.2.2.3	Category I (CAT I) Precision Approach (WAAS) - (Phase 8A Matrix)	73
4.3.2.2.4	Low Visibility Surface Operations - (Phase 11B Matrix)	74
4.3.2.2.5	Arrival and Departure Sequencing - (Phase 7B Matrix)	75
4.3.2.3	Far-Term Benefits (2001 and Beyond)	76
4.3.2.3.1	CAT I Precision Approach (LAAS) & CAT III Takeoff and Land (LAAS)	76
4.3.2.3.2	Direct Low Altitude Routes Using ADS-B - (Phase 9C Matrix)	76
4.3.2.3.3	Direct Flight to Final with User-Preferred Arrival Time - (Phase 10 Matrix)	77
4.3.2.3.4	Low/Zero Visibility Surface Operations - (Phase 11C & 12 Matrices)	78
4.3.3	Oceanic	78
4.3.3.1	Near-Term Benefits (Now through 1997)	78
4.3.3.1.1	Achieve Optimum Altitude (Phase 1 Matrix)	78
4.3.3.1.2	Flexible Tracks (Phase 2 Matrix)	79
4.3.3.1.3	Dynamic Rerouting, 2000ft. Step Climb, 50nm. Lateral Separation (Phase 3A Matrix)	79
4.3.3.1.4	Required Communications Performance	80

4.3.3.2	Mid-Term Benefits (1998 through 2000)	80
4.3.3.2.1	1000ft. Vertical Separation, RTA Crossing Techniques (Phase 3B Matrix)	80
4.3.3.2.2	Lateral Separation 30 nm., Longitudinal Separation 50 nm (Phase 4 Matrix)	81
4.3.3.2.3	Separation Minima 30/30 nm, Optimum Flight Path Random Area Routing (Phase 5)	81
4.3.3.3	Far-Term Benefits (2001 and Beyond)	82
4.3.3.3.1	Separation Minima 15/15 nm. (Phase 6 Matrix)	82
4.3.3.3.2	Separation Minima Less Than 15/15 nm. - Free Flight (Phase 7 Matrix)	82
4.3.4	Traffic Flow Management	83
4.3.4.1	Near-Term Benefits (Now though 1997)	83
4.3.4.1.1	Planned Airborne Holding (Phase 1 Matrix)	83
4.3.4.1.2	User information for Ground Delay Program Implementation Decisions	83
4.3.4.1.3	Ration by Arrival Schedule Times (Phase 3B Matrix)	83
4.3.4.1.4	Control Flow by Arrival Time Slots instead of Controlled Departure Times	84
4.3.4.1.5	Allocate Airport Capacity through Arrival Slot/Window Contracts (Phase 3D Matrix)	84
4.3.4.1.6	Aggregate Flow Directives Capacity Allocation instead of Slot Allocation	84
4.3.4.1.7	Expand National Route Program (Phase 2 Matrix)	85
4.3.4.1.8	Improve Information Availability Using Existing Communication Capabilities	85
4.3.4.1.9	Provide Status for Selected SUAs on existing Communication Mechanisms	85
4.3.4.2	Mid-Term Benefits (1998 through 2000)	86
4.3.4.2.1	Automated Scheduling and Status Dissemination of Special Use Airspace (SUA)	86
4.3.4.2.2	Robust Infrastructure for TFM/User Collaboration (Phase 4A Matrix)	86
4.3.4.2.3	More Accurate Information for Flight/Operations Planning and Demand/Capacity Determination (Phase 3G Matrix)	86
4.3.4.2.4	Full Collaboration on Demand, Capacity Predictions/Status and Flow Management	86
4.3.4.2.5	Efficient Transition to Structured (Congested) Airspace (Phase 4C Matrix)	87
5.0	TRANSITION AND COST/BENEFIT	89
5.1	Transition Benefits and Assessments	89
5.1.1	Modular Transition and Incremental Development	89
5.1.2	Metrics for Quantifying Benefits	91
5.1.3	Benefits Assessments	92
5.1.4	Cost/Benefits Analyses	95
5.2	Critical Elements in Transition	96
5.2.1	Transition to GPS- and FMS-Based Navigation	98
5.2.2	Transition to Data Communications	99
5.2.3	Transition to Automatic Dependent Surveillance (ADS)	100

5.2.4	Transition to Decision Support Systems	100
5.2.4.1	Conflict Probe	101
5.2.4.2	Other Decision Support Systems	101
5.2.4.3	Decision Support in Traffic Flow Management	102
5.3	Human Factors Considerations	103
5.3.1	Automation to Facilitate Controller Performance	106
5.3.2	The Well-Equipped Cockpit	109
5.4	Enabling Capabilities and Processes	110
5.4.1	Coordinating Free Flight Implementation Activities	110
5.4.2	Certification Requirements Reform	111
5.4.3	Aviation Weather Development	113
5.4.4	Improving Current System Limitations	113
5.4.5	Modeling and Analysis to Support Transition	114
5.4.5.1	Coordination	115
5.4.5.2	Collaboration	115
5.4.5.3	Feedback	115
5.4.5.4	Suggested Study Areas	116
5.4.5.5	Summary	116
5.5	Transition Plan	118
5.5.1	Domestic U.S. Cruise Milestones	118
5.5.2	Terminal, Final Approach, and Airport Surface Milestones	121
5.5.3	Oceanic Milestones	124
5.5.4	Traffic Flow Management	129
6.0	RECOMMENDATIONS	133

Appendices

Appendix A	Membership
Appendix B	References
Appendix C	Acronyms
Appendix D	Matrices
Appendix E	<i>American Airlines, A View of the National Route Program</i>
Appendix F	<i>AOPA, Free Flight General Aviation Benefits</i>

EXECUTIVE SUMMARY

The Government and the entire civil aviation community stand at the threshold of a great opportunity to safely re-order the air traffic system. In order to seize upon this opportunity, RTCA Task Force 3 offers this report with recommendations for actions to implement the concept of free flight. The Task Force provided an excellent opportunity for system users and providers to come to grips with challenges which are currently limiting the system capacity and draining valuable organizational resources and capital. The guiding principles used throughout the task force deliberations are contained in Chapter 2. A complete list of recommendations along with a short rationale for each is contained in Chapter 6.

A dominant recommendation is made to enhance the FAA/aviation community collaboration during the transition process to provide savings for both the FAA/DoD and the user community.

****A Within six months after the FAA receives the Task Force report, a government/industry Free Flight Steering Committee, formed under the auspices of the RTCA as a Federal Advisory Committee, should meet. The objectives of this committee should be:**

- To establish an agreed-to implementation strategy and milestones.
- To periodically review government and industry progress in meeting implementation commitments, via the use of appropriate metrics.
- To identify new free flight implementation opportunities as well as events/situations that are inhibiting progress and review actions that are taken.

International Cooperation

While the primary objective of this Task Force is to provide the FAA Administrator with consensus views regarding the implementation of free flight in the US national airspace, the broader goal is to produce a seamless global ATM capability. A major contribution was made by Mr. B. O'Keeffe from Airservices Australia and Mr. V.K.H. Eggers of the Danish CAA and European Civil Aviation Conference. Their recommendation and that of Task Force 3 is that substantial international participation in the new Steering Committee will have a salutary effect on future efforts for developing a universal global ATM. To that end, the Task Force recommends that this free flight Steering Committee include appropriate international representatives.

Following the milestone reports on navigation and data link communications by RTCA Task Force 1¹, RTCA Task Force 2², and the *Report of the RTCA Board of Director's Select Committee on Free Flight*³, comes this RTCA Task Force 3 report: *Free Flight Implementation*. Task Force 3's report defines the implementation of a concept to move from today's rather rigid and largely procedural, analog, and ground-based system comprising HF/VHF-voice communications, terrestrial-based navigation systems, radar surveillance, and limited air traffic decision support to that of the future flexible collaborative system by

¹ RTCA Task Force 1, *GNSS Transition and Implementation Strategy*, September 1992, RTCA, Inc.

² RTCA Task Force 2, *The Transition to Digital Communications, Urgent Needs, Practical Means*, December 1993, RTCA, Inc.

³ *Report of the RTCA Board of Directors Select Committee on Free Flight*, January 18, 1995, RTCA, Inc.