



International Civil Aviation Organization

Third North Atlantic/Caribbean (NAT/CAR) ATS Routes Working Group Meeting

(NAT/CAR WG/3)

Miami, Florida, USA, 13 to 15 November 2007

NAT/CAR WG/3 - WP/03

18/10/07

Agenda Item 3: ATS Route Structure Redesign Issues

WATRS PLUS IMPLEMENTATION TASK LIST

(Presented by the United States)

SUMMARY
This working paper provides the status of the Tasks required for the implementation of the WATRS Plus project on oceanic routes and areas in the WATRS Airspace. The project provides plans for implementation of a route structure redesign and a reduced lateral separation standard of 50 NM between operators/aircraft authorized RNP 10 or RNP 4.
ICAO Strategic Objective: <i>A: Safety – Enhance global civil aviation safety</i> <i>D: Efficiency – Enhance the efficiency of aviation operations</i> <i>E: Continuity – Maintain the continuity of aviation operations</i>
Global Performance Indicators: <i>GPI-5 Performance Based Navigation</i> <i>GPI-6 Air Traffic Flow Management</i> <i>GPI-7 Dynamic and flexible ATS route management</i> <i>GPI-8 Collaborative airspace design and management</i>

1. Discussion

1.1 This working paper provides the status of list of tasks required of the U.S. WATRS Plus Task Force, ICAO Offices and Groups, States and Operators for the implementation of a route structure redesign and reduced separation in the WATRS Plus Control Areas. The implementation is scheduled for 5 June 2008.

1.2 The major sections of the task list are shown below.

- I. General Project Development & Management
- II. International Coordination: ICAO Groups & Documents
- III. Route Structure Redesign & Publication
- IV. Safety Analysis & Monitoring
- V. Air Traffic Control Tasks – General
- VI. Operations, Airworthiness & RNP Authorization
- VII. State Responsibilities for RNP Authorization
- VIII. Operator Responsibilities & Tasks
- IX. Final Implementation Decision & Notification
- X. Post-Implementation Tasks

2. Suggested Action.

2.1 The Meeting is invited to:

- a) review Section VII (State Responsibilities) and consider the status of actions taken;
- b) suggest changes, as necessary; and endorse the work program for implementation of the WATRS Plus project.

ID	WATRS PLUS PROJECT TASKS - Updated 17 Oct 2007	COMPLETE BY	STATUS	LEAD; COORDINATING ORG.
I. GENERAL PROJECT DEVELOPMENT & MANAGEMENT				
1	Conduct analysis of traffic flows, flight level utilization, city pairs, operator and aircraft type populations	30-Apr-06	Complete	US WATRS Plus Task Force (WPTF)
2	Identify Target Airspace	30-Jun-06	Complete	US WPTF
3	Identify target Control Areas (CTA) and incorporate into doc revisions	30-Jun-06	Complete	US WPTF
4	Identify transition airspace and incorporate into doc revisions	31-May-07	Complete	US WPTF; NAT WG, CAR WG
5	Identify issues for adjoining airspace (e.g., route extension into airspace of adjoining ATS providers)	15-Nov-07		US WPTF; NAT WG, CAR WG
6	Identify Project Goals	30-Jun-06	Complete	FAA; NAT WG, CAR WG
7	Have significant percentage of operators obtain RNP 10 or RNP 4 authority from appropriate State authority	05-May-07		States; Operators, US WPTF
8	Accommodate operation of approx. 15% of flights conducted by Non-RNP 10 aircraft	05-Jun-08		US WPTF
10	Implement airspace route structure redesign to increase the number of routes and associated altitudes	05-Jun-08		US WPTF; ATS Providers
11	Reduce lateral separation between aircraft authorized RNP 10, RNP 4 or equivalent	05-Jun-08		US WPTF; NAT & CAR WG
12	Develop Concept of Operations Document	31-May-07	Complete	US WPTF; NAT & CAR WG
13	Assess Costs and Benefits	31-Aug-07	In progress	US WPTF
14	Complete initial assessment	30-Jun-06	Complete	US WPTF
15	Complete Cost/Benefit Analysis	31-Oct-07		US WPTF; NAT & CAR WG
16	Assess Feasibility	30-Sep-06	Complete	USWPTF; NAT& CAR WG
17	Confirm that 85% of flights are conducted by aircraft types capable of meeting RNP 10 standards without major modification	31-Jan-07	Complete	US WPTF
18	Develop schedule for Route Structure redesign and publication	30-Sep-06	Complete	US WPTF; NAT/CAR ATS Rts WG
19	Develop schedule for ATC automation system update or modification	30-Sep-06	Complete	US WPTF
20	Identify Key Target Dates	30-Sep-06	Complete	US WPTF; NAT/CAR WG
21	Establish Information Dissemination Program	23-Jun-07	Complete	US WPTF
22	Establish WATRS+ Webpage	31-Dec-06	Complete	US WPTF
23	Schedule WATRS+ seminars, if necessary	30-Jun-06		US WPTF; NAT/CAR WG, ICAO Offices
24	Establish distribution lists for State regulators and Industry organizations	30-Sep-06	Complete	US WPTF
25	Publish State letters through ICAO NACC and EUR/NAT Offices, as necessary	05-Mar-08		US WPTF; NAT/CAR WG, ICAO offices

ID	WATRS PLUS PROJECT TASKS - Updated 17 Oct 2007	COMPLETE BY	STATUS	LEAD; COORDINATING ORG.
26	Notify States and Operators of key implementation dates and requirements	05-Jun-07	In progress	US WPTF; NAT/CAR WG
27	Publish 18-month Advance Notice	30-Nov-06	Complete	US WPTF
28	Publish Notice containing WATRS Plus specific operational policy/procedures	27-Sep-07	Complete	US WPTF; NAT/CAR WG, ICAO Offices
29	Publish 3-month Notice confirming implementation date	10-Mar-08		US WPTF; NAT/CAR WG
30	Confirm ATS providers ready for implementation	05-Mar-08		US WPTF, State ATS Providers
31	Confirm Operators ready for implementation	05-Mar-08		US WPTF; State regulators; Operators
32	II. INTERNATIONAL COORDINATION: ICAO GROUPS & DOCUMENTS			
33	Schedule NAT/CAR ATS Routes WG (see section III)	10-May-07	In progress	US WPTF; ICAO Offices
34	Provide input into appropriate CAR/SAM and NATSPG WGs	On-going	In progress	US WPTF; NAT/CAR WG, ICAO Offices
35	CAR/SAM meetings (to be updated as meetings scheduled)	On-going	In progress	US WPTF, NACC Office
36	<i>GREPECAS/14 (15-20 April 07, Costa Rica)</i>	20-Apr-07	Complete	US WPTF, NACC Office
37	<i>NAT/CAR ATS Routes WG/2 (8-10 May 07, Miami, Fla.)</i>	10-May-07	Complete	US WPTF, NACC Office
38	<i>Air Traffic Flow Mgt. Task Force/3 (ATFM/3) (18-22 June 07, Colombia)</i>	15-Jun-07	Complete	US WPTF, NACC Office
39	<i>CAR WG/1 (21-23 Jun 07, Trinidad/Tobago)</i>	30-Jun-07	Complete	US WPTF, NACC Office
40	<i>AP/ATM/13 (9-13 July 07, Colombia (as 28 May 07))</i>	13-Jul-07	Complete	US WPTF, NACC Office
41	<i>C/CAR DCA/9 (9-13 July 07, Aruba)</i>	13-Jul-07	Complete	US WPTF, NACC Office
42	<i>GREPECAS ATM Committee/6 (15-19 Oct 07, Dominican Republic)</i>	19-Oct-07		US WPTF, NACC Office
43	<i>E/CAR DCA/21 (3-7 Nov 07, British Virgin Islands)</i>	07-Nov-07		US WPTF, NACC Office
44	<i>NAT/CAR ATS Routes WG/3 (13-15 Nov 07, tbd)</i>	15-Nov-07		US WPTF, NACC Office
45	NATSPG meetings (to be updated as meetings scheduled)		In progress	US WPTF, EUR/NAT Office
46	NAT ATMG/29 (19-23 Mar 07, FAA ATCSCC)	23-Mar-07	Complete	US WPTF, EUR/NAT Office
47	NAT SARSIG/5 (11-13 April 07, Paris)	13-Apr-07	Complete	US WPTF, EUR/NAT Office
48	NAT Safety Management Coordination Group (16-20 April, Paris)	20-Apr-07	Complete	US WPTF, EUR/NAT Office
49	NAT IMG/30 (24-27 Apr 07, Reykavik, Iceland)	27-Apr-07	Complete	US WPTF, EUR/NAT Office
50	NAT/CAR ATS Routes WG/2 (8-10 May 07, Miami, Fla.)	10-May-07	Complete	US WPTF, EUR/NAT Office
51	NAT Ops/Air WG (coordinate via email, etc.)	31-Mar-07	Complete	US WPTF, EUR/NAT Office
52	NATSPG/43 (12-15 June 06, Paris)	15-Jun-07	Compete	US WPTF, EUR/NAT Office
53	NAT/CAR ATS Routes WG/3 (13-15 Nov 07; location tbd)	15-Nov-07		US WPTF, EUR/NAT Office

ID	WATRS PLUS PROJECT TASKS - Updated 17 Oct 2007	COMPLETE BY	STATUS	LEAD; COORDINATING ORG.
54	Revise ICAO CAR and NAT Regional Supplementary Procedures	01-Apr-08	In progress	US WPTF, NAT/CAR WG, ICAO Offices
55	Develop initial draft Doc 7030	15-Feb-07	Complete	US WPTF
56	Have CAR and NAT working groups review draft	15-Apr-07	In progress	US WPTF; NAT/CAR WG, ICAO Offices
57	Complete initial safety analysis document	26-Oct-07		US WPTF; ICAO Offices
58	Review draft and schedule with ICAO NACC Office during CAR WG/1 (21-23 June 07)	23-Jun-07	Complete	US WPTF
59	ICAO NACC distribute Doc 7030 revisions for State and International organization comment	15-Nov-07		ICAO NACC Office; EUR/NAT Office
60	ICAO approve and publish CAR and NAT 7030 revisions	2/Q 08		ICAO Hq; NACC Office; EUR/NAT Office
61	Revise CAR/SAM Air Navigation Plan (ANP)	2/Q 08		US WPTF, NACC Office; CAR WG
62	Finalize route structure redesign chart	15-Nov-08		US WPTF; NAT/CAR ATS Rts WG
63	Develop draft CAR/SAM ANP revision	31-Oct-07		US WPTF; NACC Office
64	Forward ANP draft to NACC Office	31-Oct-07		US WPTF
65	Review draft ANP revision at NAT/CAR ATS Routes WG/3 (13-15 Nov 07)	15-Nov-07		US WPTF; NACC Office
66	III. ROUTE STRUCTURE REDESIGN & PUBLICATION			
67	Convene NAT/CAR ATS Routes WG, as necessary to coordinate project with ATS providers adjoining airspace		In progress	US WPTF; EUR/NAT & NACC Offices
68	NAT/CAR ATS Routes WG/1 (Sept 2006)	19-Sep-06	Complete	US WPTF; NACC Office
69	NAT/CAR ATS Routes WG/2 (8-10 May 2007)	10-May-07	Complete	US WPTF; NAT/CAR WG; ICAO Offices
70	NAT/CAR ATS Routes WG/3 (13-15 Nov 07)	13-Nov-07		US WPTF; NAT/CAR WG, ICAO Offices
71	Confirm lateral separation standard to be applied	21-Sep-06	Complete	US WPTF; NAT/CAR WG
72	Develop and distribute initial route structure redesign chart	19-Sep-06	Complete	US WPTF
73	Validate route & fix coordinates w/ U.S. National Aeronautical Charting Organization and National Data Flight Center	31-Oct-07		US WPTF
74	Name fixes and routes in accordance w/ ICAO policy	24-Oct-07	Complete	US WPTF
75	Identify requirements for new SIDs and STARs, as necessary	15-Nov-07		US WPTF; States, Industry
76	Complete ATC simulations, as necessary	15-Dec-07		US WPTF
77	Submit draft CAR/SAM ANP revision to ICAO NACC for NAT/CAR ATS Routes WG/3 review (13-15 Nov 07)	31-Oct-07		US WPTF

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ID	WATRS PLUS PROJECT TASKS - Updated 17 Oct 2007	COMPLETE BY	STATUS	LEAD; COORDINATING ORG.
78	Publish and distribute final route redesign charts and nav database information	10-Apr-08		US WPTF; NAT/CAR ATS Rts WG
79	Finalize State government charts and nav database information	10-Apr-08		US WPTF; States, Industry
80	Distribute to industry aeronautical chart and nav database providers	10-Apr-08		US WPTF; NAT/CAR WG
81	ATS providers with adjoining airspace coordinate Letter of Agreement, as necessary	10-Apr-08		US WPTF; ATS providers
82	Implement redesigned WATRS Plus route structure	05-Jun-08		US WPTF; ATS providers
83	IV. SAFETY ANALYSIS & MONITORING			
84	Conduct studies to assess traffic flows and operator and aircraft operations in WATRS Plus CTAs	31-May-06	Complete	US WPTF; NAT/CAR ATS WG
85	Confirm acceptability of RNP 10 navigation standard with ICAO Separation and Airspace Safety Panel (SASP)	31-May-06	Complete	US WPTF; ICAO SASP
86	Establish preliminary plan for WATRS Plus Scrutiny Group	15-Nov-07		US WPTF; NAT/CAR WG
87	Develop initial Safety Assessment Document	31-Oct-07		US WPTF
88	Develop plan for post-implementation monitoring and convene Scrutiny Group, as necessary	15-Nov-07		US WPTF; NAT/CAR WG
88	Update Safety Assessment Document, as necessary for Readiness Review	05-Mar-08		US WPTF; NAT/CAR WG
90	Start post-implementation monitoring	05-Jun-08		US WPTF; NAT/CAR WG
91	V. AIR TRAFFIC CONTROL TASKS - GENERAL			
92	Modify ATC automation systems, as necessary	05-Mar-08		US WPTF; ATS providers
93	Confirm ICAO Flight Plan Equipment Suffix provisions are adequate	15-Nov-07		US WPTF; NAT/CAR WG, Operators
93a	Conduct Fast-time simulations to assess effect of added routes and associated flight levels and effect of Non-RNP 10 aircraft	30-Jun-07	Complete	US WPTF; NAT/CAR ATS Rts WG
94	Coordinate with Flight Service Stations and other appropriate ATS organizations	01-Dec-07		US WPTF; ATS providers
96	Conduct ATC automation system simulations (e.g., Ocean 21)	15-Dec-07		US WPTF; New York Center
97	Revise Air Traffic policy orders, manuals, etc.	05-Mar-08		US WPTF; ATS providers
98	Establish plan for controller training to be conducted between 1 Apr - 1 Jun 08	01-Dec-07		US WPTF, ATS providers
99	VI. OPERATIONS, AIRWORTHINESS & RNP 10 (MINIMUM PERFORMANCE) AUTHORIZATION			
100	Provide WPs & IP's to appropriate CAR and NAT WG containing Ops/Air requirements	On-going		US WPTF
101	Establish WATRS+ Webpage where current Ops and Airworthiness guidance can be posted	31-Dec-06	Complete	US WPTF; NAT/CAR WG
102	Review ICAO RNP Manual (Doc 9613) for RNP 10 criteria	30-Apr-06	Complete	US WPTF; State regulators

ID	WATRS PLUS PROJECT TASKS - Updated 17 Oct 2007	COMPLETE BY	STATUS	LEAD; COORDINATING ORG.
103	Incorporate ICAO Performance Based Navigation (PBN) Manual references into documents and presentations	30-Jun-07	Complete	US WPTF, NAT/CAR WG, ICAO Offices
104	Publish and distribute Advance Notice containing basic Ops/Air requirements	22-Nov	Complete	US WPTF
105	Develop US version of RNP 10 Authorization Job Aid, post on WATRS+ Webpage for State consideration	05-Mar	Complete	US WPTF; ICAO Offices
106	Distribute ICAO State letter re RNP 10 & RNP 4 Authorization Job Aids and WATRS Plus Webpage	15-Oct-07	Complete	US WPTF; ICAO Offices
107	RNP 10 Job Aid: update and re-distribute after publication of ICAO PBN Manual	15-Jul-07	Complete	US WPTF; ICAO Offices
108	Provide general support to regulatory authorities in preparing inspectors for RNP 10 authorization tasks	On-going		US WPTF; State regulators
109	Coordinate w/ NATSPG Ops/Air Group and key CAR/SAM Ops/Air contacts	01-Apr-07	In progress	US WPTF; NAT/CAR WG
110	Track timely publication and distribution of aeronautical charts and nav database information	10-Apr-08		US WPTF
111	Track operator/aircraft fleet RNP 10 readiness	05-Mar-08		US WPTF; State regulators
112	VII. STATE RESPONSIBILITIES FOR RNP 10 (MINIMUM PERFORMANCE) AUTHORIZATION			
113	Review ICAO docs and/or State documents recommended by ICAO related to RNP 10 authorization	01-Jun-07		States
114	Consider using FAA Order 8400.12A (RNP 10 Operational Approval)	01-Jun-07		State regulators
115	Develop or revise State guidance and/or regulations, as necessary, for RNP 10 or RNP 4 authorization	01-Jun-07		State regulators
116	Establish State RNP 10 airworthiness requirements	01-Jun-07		State regulators
117	Establish operational policy/procedures requirements for RNP 10 authorization	01-Jun-07		State regulators; US WPTF
118	Prepare State inspectors to perform RNP 10 authorization tasks	01-Jun-07		State regulators
119	Review WATRS Plus Webpage periodically to remain current on WATRS Plus information	On-going		State regulators
120	Plan to authorize national operators for RNP 10 or better by 5 May 08, to extent possible	01-Jun-07		State regulators
121	VIII. OPERATOR RESPONSIBILITIES & TASKS			
122	Develop plan to obtain RNP 10 (minimum) or RNP 4 (operator option) authorization by 5 May 08	15-Jun-07		Operators
123	Coordinate w/ State regulatory authorities to determine requirements for RNP 10 (minimum) or RNP 4 authorization	15-Jun-07		Operators
124	Determine Aircraft Long Range Navigation System (LRNS) eligibility for RNP 10 (minimum) or RNP 4	15-Jun-07		Operators
125	Review WATRS Plus Webpage periodically to remain current on WATRS Plus plans and schedules and Ops/Air requirements	On-going		Operators

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ID	WATRS PLUS PROJECT TASKS - Updated 17 Oct 2007	COMPLETE BY	STATUS	LEAD; COORDINATING ORG.
126	In accordance w/ regulatory authority guidance, submit docs supporting State authorization for RNP 10 or RNP 4	As required		Operators
127	Train pilots and, if applicable, dispatchers on WATRS Plus RNP 10/50 NM lateral separation policy/procedures	05-May-08		Operators
128	Develop and distribute operations manuals, pilot bulletins or other appropriate docs containing WATRS Plus policy/procedures	05-May-08		Operators
129	Maintain LRNS in accordance accepted maintenance practices	On-going		Operators
130	Take timely action w/ State authorities to address any track keeping errors or other events that could affect operational safety	On-going		Operators
131	IX. FINAL IMPLEMENTATION DECISION & NOTIFICATION			
132	Target date for readiness review and decision to implement	05-Mar-08		US WPTF
133	Target date for publication of notice of implementation decision	10-Mar-08		US WPTF; NAT/CAR WG
134	Target date for operators to obtain RNP 10 (minimum) or RNP 4 authorization	05-May-08		Operators, State regulators
135	Target for implementaion of redesigned route structure and 50 NM lateral separation	05-Jun-08		US WPTF; NAT/CAR WG
136	X. POST IMPLEMENTATION TASKS			
137	Air Traffic, Flight Standards, and Safety Analysis organizations identify and rectify problems and inform WATRS Plus Task Force leads and appropriate organizations	On-going		US WPTF
138	Convene WATRS Plus Scrutiny Group to identify and rectify air traffic, operations or airworthiness problems	05-Jul-08		US WPTF; NAT/CAR WG
139	One-month post-implementation review	10-Jul-08		US WPTF; NAT/CAR WG
140	6-month review	05-Dec-08		US WPTF; NAT/CAR WG
140	12-month review and Safety Assesment	30-Jun-09		US WPTF; NAT/CAR WG
141	Periodic review and safety assessment	On-going		US WPTF; NAT/CAR WG