



Federal Aviation  
Administration

# FANS Central Reporting Agency (CRA) Website



Prepared by: FAA ANG-E61 Separation Standards Analysis

Last updated: 11 January 2018

# Central location for PBCS tools and information

## [www.FANS-CRA.com](http://www.FANS-CRA.com)

- 1. Hosts the Central Reporting Agency (CRA)**
  - AKA Data Link Monitoring Agency (DLMA) in the NAT
- 2. Must register for account to obtain secure access**
  - Available to any FANS data link stakeholder
  - **Only 1 account per company/organization (if multiple users, expected to share common username and password)**
- 3. Allows stakeholders to log data link problems reports**
- 4. Maintains “FANS Problem Solution Tracker”**
- 5. Hosts PBCS Charter**
- 6. Results provided by fleet and by registration numbers for contributing FIRs**
  - Anchorage, New Zealand, Oakland, Gander, New York, Reykjavik, Santa Maria, Shanwick
  - ACP and ASP shown against 95% and 99.9%





Username: \_\_\_\_\_ Password: \_\_\_\_\_

First Name: \_\_\_\_\_ Last Name: \_\_\_\_\_

Email for CRA communications: \_\_\_\_\_

Email for CSP Outgauge Notifications(If Required): \_\_\_\_\_

Display Name (If Applicable): \_\_\_\_\_ Organisation: \_\_\_\_\_

Location: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Additional Emails (separate by *semicolon* or *space*): \_\_\_\_\_

**SIGN UP**



# Problem reporting, investigation, resolution

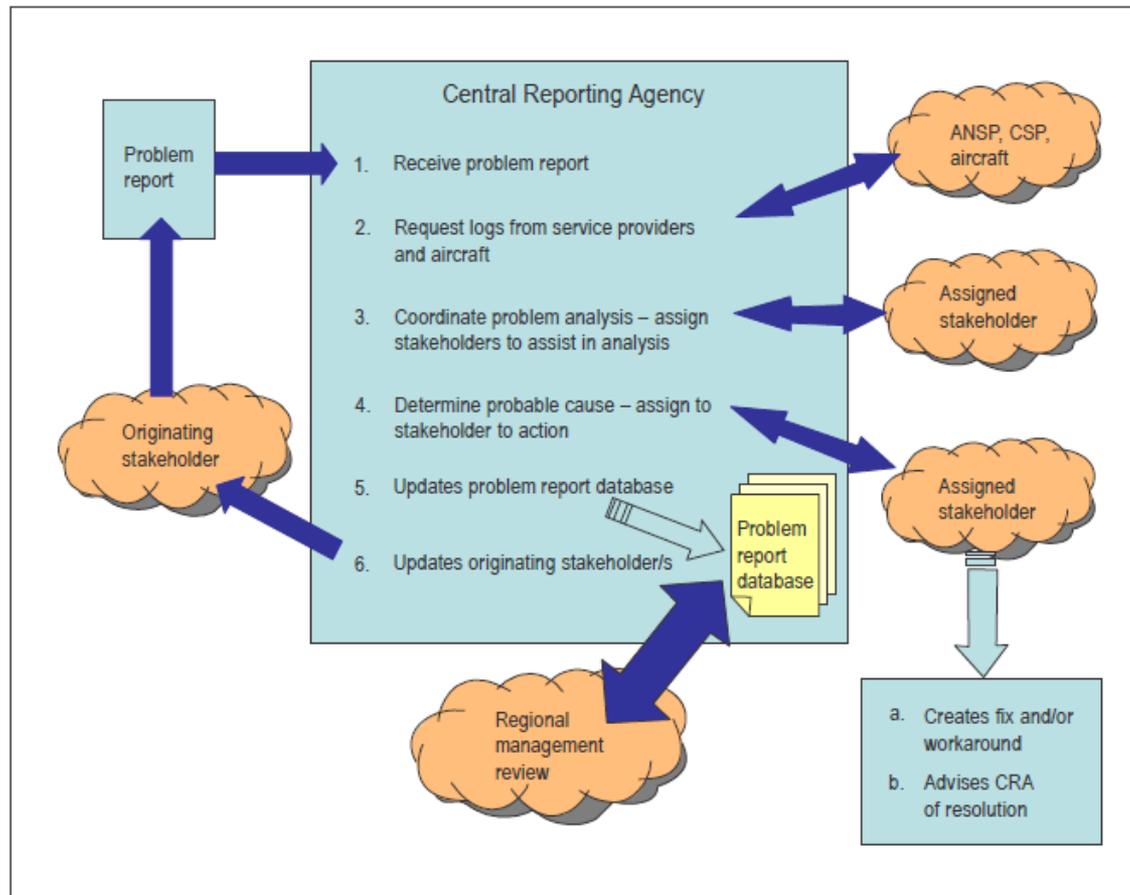


Figure D-13. Problem reporting and resolution process

## Problem report form

Originator's Reference Number:	
<input type="text"/>	
Title:	
<input type="text"/>	
Date UTC (YYYY-MM-DD):	Time UTC:
2017-10-19	<input type="text"/>
Registration:	Flight Identifier:
<input type="text"/>	<input type="text"/>
Departure and Arrival Airports:	Aircraft Type:
<input type="text"/>	<input type="text"/>
Active Center:	Next Center:
<input type="text"/>	<input type="text"/>
Position:	
<input type="text"/>	
Description:	
<input type="text"/>	
<input type="text"/>	
<input type="button" value="ADD FILES"/>	Select files to upload



# Problem investigation and resolution

- **Data collection typically involves obtaining logs from involved parties**
- **May include:**
  - aircraft maintenance system logs
  - built-in test equipment data dumps for some aircraft systems
  - SATCOM activity logs
  - logs/printouts from the flight crew and recordings/logs from the ANSPs involved in the problem
- **It is crucial that events are reported shortly after event so that the entity collecting data for the analysis task can request and obtain necessary data in a timely manner, as much of it is subject to limited retention**



# Problem investigation and resolution

- **Following a problem's identification and resolution, a considerable period of time may elapse while software updates are applied to all aircraft in a fleet**
  - Procedural methods to mitigate the problem may need to be developed while the solution is being coordinated
- **The regional monitoring entity should identify the need for such procedures and develop recommendations for implementation by the ANSPs, CSPs and operators involved**

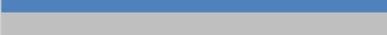
# PBCS Manual, Appendix D

- **5.1.3 All stakeholders should be actively involved in the problem reporting and resolution process. It is essential that all aircraft operators in a region have the opportunity to become involved in the process and CRAs should be proactive in getting all aircraft operators and other stakeholders to register and participate in the process.**
- **5.1.4 The problem identification and resolution process, as it applies to an individual problem, consists of the following phases: a data collection; problem analysis and coordination with affected parties to secure a resolution; and recommendation of interim procedures to mitigate the problem, in some instances.**
- **5.2.1.1 The problem identification task begins with the receipt of a problem report from a stakeholder, usually an operator, an ANSP or CSP, but may include an aircraft or avionics manufacturer.**



# FANS Problem Solution Tracker

- Record of current FANS1/A problems and status (Aircraft, Ground, Network)
- Workarounds and proposed solutions
- Recommended software versions for data link operations

Color coding legend:	
	Problem fixed or a fix is available
	Workaround is available
	There is a pending fix to the problem
	Fix to the problem is not available
	Needs to be further discussed by NAT TIG
	New issue that has not been reviewed by NAT TIG
	Not applicable
Red text	Revised or new text that has not been reviewed by NAT TIG

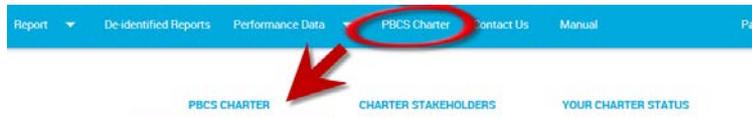
Recommended software versions for NAT data link operations			
Aircraft type	FANS software	ACARS software	Notes
A318/A319/A320/A321	CSB7.4	CSB7.4	Aircraft with Thales FMS should have FMS software version S5 or S6 or S7
A330/A340	CLR7.4	CLR7.4	Aircraft with Thales FMS should have FMS software version T3 or T4 or T5
A350	CLV1.3.1	S3.1	
A380	CLA4.1	S2.1	
MD11	FMS Pegasus -921	Honeywell CMU Mark II: 998-6063-501 or -521 Rockwell Collins CMU-900: 832-9548-012	
B736/7/8/9	FMS U12		
B744	With original FMS: Load 16 With B748 FMS: BPV3.1		
B748	FMS BPV3.1		
B75x	FMS Pegasus 2009		
B76x			
B77X			With AIMS-1: BPV16 With AIMS-2: BPV17A
B78X		CMF BPV4	



# PBCS Global Charter

- Available an “alternate means of compliance” for CSP “contract/agreement” needed for operator approval if accepted by State of Operator/State of Registry
- Hosted on the [www.FANS-CRA.com](http://www.FANS-CRA.com) website where stakeholders will go to sign and obtain proof of respective CSP signature, as required by approval process

# PBCS Global Charter – web interface



## Charter Purpose and Applicability

The purpose of this charter is to have a joint agreement among stakeholders as to the support required from each stakeholder for successful performance-based communication and surveillance (PBCS) operations under the PBCS framework. Stakeholders include ANSPs using PBCS to support ATM operations in their airspace, aircraft operators participating in PBCS operations, communication service providers (CSPs), satellite service providers (SSPs), aircraft manufacturers, and aircraft equipment suppliers.

## References

ICAO Doc 9869, Performance-Based Communication and Surveillance (PBCS) Manual.

ICAO Doc 10037, Global Operational Data Link (GOLD) Manual.



PBCS CHARTER    CHARTER STAKEHOLDERS    **YOUR CHARTER STATUS**

✓ Airways New Zealand

## PBCS Charter - Point of Contact

Name:

Paul Radford

Email:

paul.radford@airways.co.nz

To indicate acceptance of charter and add your organisation to the list of charter stakeholders select the tick box above and then select update.

To remove yourself from the list of charter stakeholders deselect the tick box and then select update.

UPDATE



PBCS CHARTER    **CHARTER STAKEHOLDERS**    YOUR CHARTER STATUS

Aircraft Manufacturers and Aircraft Equipment Suppliers

Communication Service Provider

ARINC     SITA

ANSP and CAA

Aircraft Operator

Charter Status

Charter Name: Paul Radford

Charter Email: paul.radford@airways.co.nz

CSP Outage Email: CSP\_outage@airways.co.nz

Date signed up: Date: 2017-06-25 Today 📅

Time: 23:43:03 Now 🕒

Note: You are 12 hours ahead of server time.

Date un signed: Date: Today 📅

Time: Now 🕒

Note: You are 12 hours ahead of server time.

# ICAO Doc 9869, PBCS Manual

## 4.3.2 Communication services provision

4.3.2.1 The CSP should provide services that meet the RCP/RSP allocations provided in the specifications. These allocations are used to establish contractual arrangements, which support safety oversight and approval of both ANSP and aircraft operator for provision and use of the services respectively.

4.3.2.2 The CSP should ensure that the services it provides adhere to the contractual arrangements, which include:

- a) RCP/RSP allocations, as contained in appropriate RCP/RSP specifications;
- b) notification to ATS units, aircraft operators and others, as appropriate, of any failure condition that may impact PBCS operations.

# CSP Compliance – Further considerations

- Ensuring the compliance of CSP allocations through the ANSP and operator is particularly important because no direct State safety oversight requirements under existing Annex provisions
  - **ATS provision and aircraft operation are subject to the certification and/or SMS requirements under Annexes 6, 11 and 19**
- Difficult to justify absolving the CSPs from PBCS requirements while other stakeholders are expected to adhere to the stated “terms” of the PBCS concept
- Some States and operators may prefer an enforceable “contract/agreement” to specify performance and safety requirements for the CSPs

# Performance data

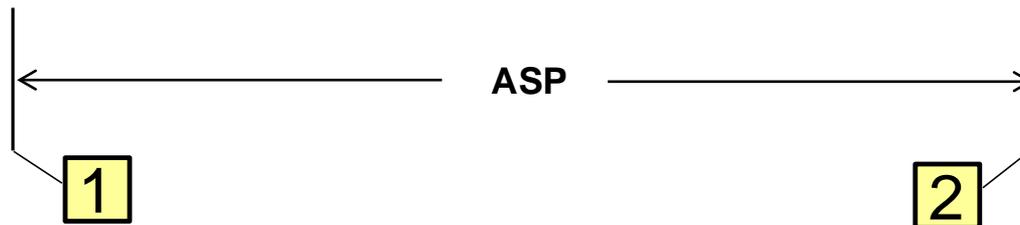
## [www.FANS-CRA.com](http://www.FANS-CRA.com)

The screenshot shows a web browser window with the URL [www.fans-cra.com/performance/list/](http://www.fans-cra.com/performance/list/). The page features a blue navigation bar with the following menu items: Report, De-identified Reports, Performance Data, Contact Us, Manual, and FAA (United States). Below the navigation bar, there are three tabs: Upload Data, View Data (which is selected), ISPACG FIT, and NAT TIG. The main content area displays a list of performance reports:

- PAC PBCS Monitoring Result - Jan-Jun 2017**  
(Uploaded by FAA (United States) at Oct. 11, 2017, 1:59 p.m.)  
Monitoring results by fleet and by individual airframe for ADS-C ASP and CPDLC RCP in Anchorage, Auckland, and Oakland FIRs during Jan-Jun 2017  
[PAC PBCS MONITORING REPORT JAN-JUN 2017 ALL RESULTS.XLSX](#)
- FANS1/A Problem and Solution Tracker**  
(Uploaded by Airways New Zealand at Oct. 10, 2017, 1:18 a.m.)  
Developed by NAT TIG this spreadsheet provides a description of current FANS1/A problems and their status. Any workaround and any proposed solutions are also described. The spreadsheet also provides the recommended software versions for different aircraft types for NAT data link operations. Updated 10 October 2017  
[FANS-PROBLEM-SOLUTION-TRACKER\\_2017-10-09.XLSX](#)
- NAT PBCS Monitoring Results - Jan-Jun 2017**  
(Uploaded by FAA (United States) at Sept. 11, 2017, 3:32 p.m.)  
Monitoring results by fleet and by individual airframe for ADS-C ASP and CPDLC RCP in Gander, New York, Reykjavik, Santa Maria and Shanwick during Jan-Jun 2017  
[NAT PBCS MONITORING REPORT JAN-JUN 2017 ALL RESULTS.XLSX](#)
- PBCS Monitoring Points of Contact**  
(Uploaded by FAA (United States) at Oct. 11, 2017, 5:48 p.m.)

# Actual Surveillance Performance (ASP)

RSP 180 specification (surveillance data delivery times and RSP continuity)				
RSP	180			RSP
95%	90			95%
RSP 180/D allocations – CPDLC or ADS-C example				
Time +/- 1 second at position (RIIP at UTC)	Monitored operational performance			ATM (ATSU system updated)
99.9%	180			OT
95%	90			DT
RSMP/RSTP	A	D1	D2	Z
	Aircraft system	Network	ATSU system	RSMP/RSTP
99.9%	5	170	5	99.9%
95%	3	84	3	95%

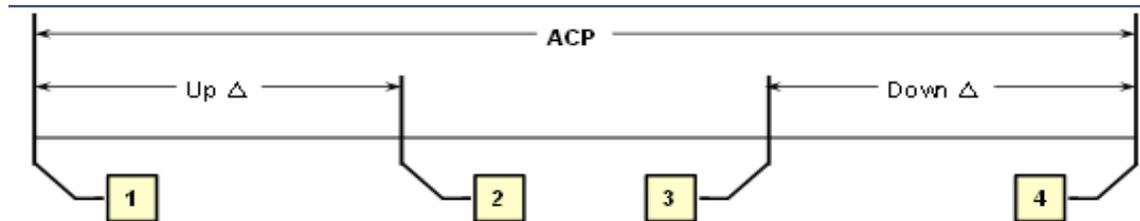


1	Downlink sent	Aircraft time at position
2	Downlink received	Date/time ATSU receives position report

# Actual Communication Performance (ACP)

RCP 240 specification (communication transaction times and RCP continuity)									
RCP	240								RCP
95%	210								95%
RCP 240.D allocations – CPDLC example									
ATM	Controller issues ATC instruction	Monitored operational performance						Controller receives response	ATM
99.9%	$P_{C/ATSU}(30)$	210						$P_{C/ATSU}(30)$	ET
95%	$P_{C/ATSU}(30)$	180						$P_{C/ATSU}(30)$	TT
RCMP		RCTP	RCP PORT	RCTP				RCMP	
99.9%		$P_{RCTP}(150)$	60	$P_{RCTP}(150)$				99.9%	
95%		$P_{RCTP}(120)$	60	$P_{RCTP}(120)$				95%	
RCTP		ATSU system	Network	Aircraft system		Aircraft system	Network	ATSU system	
99.9%		$P_{ATSU}(15)$	$P_{NET}(120)$	$P_{AIR}(15)$		$P_{AIR}(15)$	$P_{NET}(120)$	$P_{ATSU}(15)$	
95%		$P_{ATSU}(10)$	$P_{NET}(100)$	$P_{AIR}(10)$		$P_{AIR}(10)$	$P_{NET}(100)$	$P_{ATSU}(10)$	

Note. —  $P_{SUBSCRIPT}(value)$  means part of the specified [value], and that the combination of all the allocations in the row, denoted by,  $P_{SUBSCRIPT}$  equals the [value] specified.



1	Uplink Sent	Date/time ATSU sent CPDLC clearance to the aircraft
2	MAS Received	Date/time ATSU receives the MAS for the CPDLC clearance
3	WILCO Sent	Date/time aircraft sends WILCO response for the CPDLC clearance
4	WILCO Received	Date/time ATSU receives WILCO response for the CPDLC clearance