

# ***FLIGHT TECHNOLOGIES AND PROCEDURES DIVISION***

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A056, Data Link Communications



## **Data Link Communications Compliance Guide**

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Version: 09.20



# FLIGHT TECHNOLOGIES AND PROCEDURES DIVISION



Federal Aviation Administration  
Flight Technologies and Procedures Division  
470 L'Enfant Plaza, Suite 4102  
Washington, DC 20024  
**Phone: (202) 267-4623**

## Document Changes

Version	Date	Description of Change
10.17	October 6, 2017	Initial Issue of the Data Link Compliance Guide
01.18	January 24, 2018	<ul style="list-style-type: none"> <li>• Added tables for change log and summary of document reference numbers.</li> <li>• Changed wording for SOC, EQP and CSP requirements.</li> <li>• Added two appendices: Appendix: A Flight Plan Com Descriptors Appendix: B Quick Website Navigation Guide</li> </ul>
02.18	February 6, 2018	<ul style="list-style-type: none"> <li>• Added note to MON-3</li> <li>• Added EQP-6</li> <li>• Corrected SOC-2 and SOC-3</li> <li>• Added note to EQP-2</li> </ul>
02.18B	February 21, 2018	<ul style="list-style-type: none"> <li>• Changed AC 20-140 versions for SOC-2 and SOC-3</li> <li>• Added "Letter attachment check"</li> <li>• Moved page 15 to page 5 with edits</li> </ul>
03.18	March 5, 2018	<ul style="list-style-type: none"> <li>• Added pages to document changes</li> <li>• SOC-1: deleted "operators" from paragraph</li> <li>• SOC-1: added "+" to FANS 1/A</li> <li>• TNG-2: added "Yes" to Previous A056 Only column</li> </ul>
3.18A	March 16, 2018	<ul style="list-style-type: none"> <li>• Change the wording of SOC-2</li> <li>• Corrections to page iii</li> <li>• RSP in bold, App C</li> <li>• 2 bullets remove from FLP-1</li> <li>• Table references corrected on page 17</li> </ul>

Version	Date	Description of Change
3.18B	March 27, 2018	<ul style="list-style-type: none"> <li>• Updated the instructions</li> <li>• Changed table titles</li> <li>• Added application types to general information</li> <li>• Created a summary of data link requirement by operations</li> <li>• TNG-2 added “and/or”</li> <li>• Deleted column: “Previous A056”</li> <li>• Several edits throughout the document</li> </ul>
5.18	May 10, 2018	<ul style="list-style-type: none"> <li>• Included Tables in TOC, p. <a href="#">v</a> and <a href="#">vi</a></li> <li>• Rewording on pp. <a href="#">1</a> and <a href="#">2</a></li> <li>• Change bullet order <a href="#">p. 5</a></li> <li>• Added Tables 6 and 7, <a href="#">p. 8</a></li> <li>• EQP-2, Changed wording, <a href="#">p. 12</a></li> <li>• EQP-6, added statement, <a href="#">p.13</a></li> <li>• FLP-1, added statement, <a href="#">p. 17</a></li> <li>• TNG-2, Changed wording and added note. <a href="#">p.18</a></li> <li>• Added columns to Table A-1 and A-2 pp. <a href="#">19</a> and <a href="#">20</a></li> </ul>
6.18	June 4, 2018	<ul style="list-style-type: none"> <li>• Added column “Oceanic and Remote Only (New A056)” to Tables 2-4, <a href="#">p. 3</a> and <a href="#">p. 4</a></li> </ul>
7.18	July 11, 2018	<ul style="list-style-type: none"> <li>• Corrected MEL-1 and added MEL- 2 on <a href="#">p. 15</a>. Added <a href="#">page 4</a> to accommodate extra table line for MEL-2.</li> </ul>
4.19	April 15, 2019	<ul style="list-style-type: none"> <li>• Change organization to Flight Technologies and Procedures Division</li> <li>• Added Acrobat option in the instructions.</li> </ul>

Version	Date	Description of Change
6.19	June 3, 2019	<ul style="list-style-type: none"> <li>• Improved and added to the instructions</li> <li>• Eliminated SOC-2 and SOC-3 and combined content with SOC-1</li> <li>• Eliminated EQP-5 because this can be deduced by the other attachments</li> <li>• Eliminated EFB-1</li> <li>• Eliminated OPS-4 and combined content with OPS-1 with added text</li> <li>• Added to Section 2 instructions.</li> <li>• Incorporated part of note in Table 5</li> <li>• Included text to FLP-1</li> <li>• Reordered CSP-1</li> <li>• Added to Note 1 of Table 1</li> <li>• Added DAT/ tables to Appendix A</li> <li>• Reworked application form and re-arranged pages</li> <li>• Deleted note from OPS-3</li> <li>• Added LTR-1</li> <li>• Combined EQP-1 with EQP-4</li> <li>• Updated Tables 2 through 4 with an additional column to add data link capability for existing A056 authorizations and removed the Xp designations.</li> <li>• Expanded monitoring attachments to apply both to oceanic and domestic data link monitoring.</li> </ul>
7.19	July 14, 2019	<ul style="list-style-type: none"> <li>• Statement change in the instructions for FLP-1</li> </ul>
4.20	April 25, 2020	<ul style="list-style-type: none"> <li>• Added statments to item 3 and 6 on page 2</li> <li>• Changes to Table 1</li> <li>• Change to page 5 summary</li> <li>• Change to Table 5</li> <li>• Changes to Table 7</li> <li>• Changes to TNG-2</li> </ul>
9.20	September 8, 2020	<ul style="list-style-type: none"> <li>• Added M codes to Appendix A</li> <li>• Added link to FAA FP Brochure</li> </ul>

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## Section 1: Introduction

This compliance guide was developed by the Federal Aviation Administration (FAA) [Flight Technologies and Procedures Division](#) (AFS-400) to provide operators with an organized method for submitting required content for an A056 data link authorization. Use of this guide is optional, but when used, it expedites the application process because it condenses into one location the information required for data link communications. Your A056 application processing time will be significantly reduced if you follow the instructions in this guide. This document may be used for the following:

1. New applications (See first 5 columns of Tables [2](#), [3](#) and [4](#));
2. Operators with a current A056 adding identically equipped aircraft;
3. Operators with a current A056 adding non-identically equipped aircraft; or
4. Adding data link capability to an existing A056 OpSpec/MSpec/LOA (See last column of Tables [2](#), [3](#), and [4](#)).

This document uses the term “Principal Inspector (PI)” which may be a Principal Operations Inspector (POI), Principal Avionics Inspector (PAI) or Principal Maintenance Inspector (PMI). The use of “operator” refers to an operator, certificate holder, program manager, and operator/company.

The overarching guidance for data link approval is in Advisory Circular [AC 90-117](#), *Data Link Communication*. For airworthiness guidance, refer to [AC 20-140](#), *Guidelines for Design Approval of Aircraft Data Link Communication Systems Supporting Air Traffic Services (ATS)*. For new applications, operators should schedule a pre-application meeting or teleconference with the Flight Standards Office (FS).

We appreciate any feedback to improve this compliance guide.

Contact the [Flight Technologies and Procedures Division](#) at: (202) 267-8790

## Instructions

### CAUTION

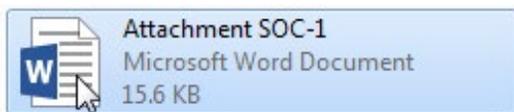
OVER 80 PERCENT OF A056 APPLICATIONS FAIL BECAUSE THE EQUIPMENT OF THE AIRCRAFT DOES NOT MATCH WHAT IS BEING CLAIMED OR WHAT IS BEING FILED ON THEIR FLIGHT PLAN. CHECK WITH YOUR FLIGHT PLAN VENDORS AND VERIFY THAT THEY HAVE ALL THE CORRECT CODES INSERTED IN FIELDS 10 AND 18 OF THE INTERNATIONAL FLIGHT PLAN FAA FORM 7233-4. THERE ARE DIFFERENCES IN FILING FOR CPDLC OPERATIONS INTERNATIONAL VERSUS DOMESTIC. SEE FLP-1 AND APPENDIX A.



1. **For ALL Applications.** Use the fill-in-the-blank portion of this guide ([pages 9-11](#)) and include a letter of request explaining your intentions.
2. **PBCS Routings and B036.** Ensure that your LOA/MSpec/OpSpec B036 lists the aircraft that you are submitting in your A056 package. **Your B036 must list RNP 4 to qualify for PBCS airspace worldwide.**
3. **New A056 Applications.** Review [Table 1](#) and determine your aircraft’s overall eligibility per operation. Respond to each required attachment item for the desired column (e.g. U.S. Domestic DCL only) in [Tables 2 through 4](#). Applicable attachment items have an “X” or “As Required”. **With each attachment, include the corresponding reference number** (e.g. SOC-1) next to each excerpt or hyperlink the reference number to the appropriate attachment with highlighted text. Include the document title, page number and paragraph number for each attachment. If an item is not applicable, provide a brief explanation as to why it does not apply. New applications must be posted on the NextGen Tracker (Part 91) and OAPS (All other parts).
4. **Adding Identically Equipped Aircraft.** Applicants should provide their PI with a request letter stating the aircraft is identically equipped as their previously approved aircraft.
5. **Adding Aircraft not Identically Equipped.** Provide a separate application for each aircraft or fleet with documentation to confirm all installed data link communication equipment.
6. **Upgrading A056 Authorization.** If you already have OpSpec/MSpec/LOA A056 , review the last column of [Tables 2 through 4](#) and respond to the X items **THAT ARE APPLICABLE** for the amendment/upgrade of your authorization. In your letter of request, clearly state the upgrade you desire. Table 7 should reflect your current and new data link capabilities. Amendments to an existing A056 authorization do not need to be posted on the NextGen Tracker or OAPS. Amendments should be authorized at the FSDO/CMO level. PIs can contact the [Flight Technologies and Procedures Division](#) specialists with any questions.
7. **Acrobat Attachment Function.** If you have one of the latest versions of Acrobat, we would prefer that you attach files to the compliance guide using the Acrobat attachment feature listing each reference number that is hyperlinked to compliance documentation and highlighted. Send your compliance guide with all the attachments in one folder. When using this method, use the naming convention for the folder name and the compliance guide. This method will result in ONE PDF WITH ATTACHMENTS.

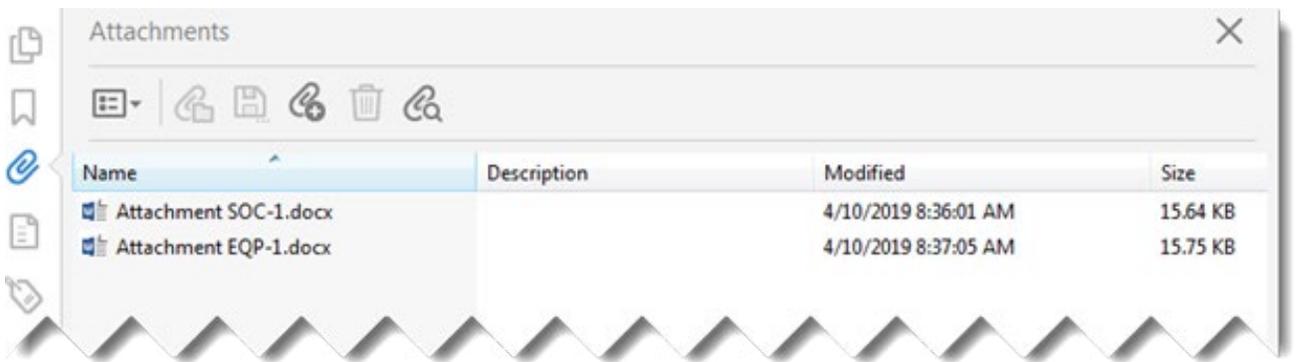
To add attachments:

- a. Click the Paper Clip icon  in the left margin
- b. To Add Files click the  and browse for the file attachment on your computer.
- c. Click on file to attach it to the compliance guide.





d. Use the steps above until all the required attachments are listed with reference numbers.



8. **Attachments without using Acrobat function.** If you do not have Acrobat, place your attachments in a single Microsoft Word (MS) file with any **highlighted** screen captures or direct wording from applicable manuals and then convert the MS Word file using the “Save as” function to a PDF format. Use the naming convention described on [page 10](#) of this guide to name your file(s).
9. **Help Us Help You.** The use of highlights, outlines, tables and/or hyper-links for your supporting documentation **reduces the application processing time**. Include only the applicable page or paragraph to show compliance. Attaching irrelevant documentation other than the requested page/paragraph to show compliance only delays the application process.



**Summary of Upgrade Requirements by Operation:** Part 91 operators are not required to have a Letter of Authorization (LOA) for U.S. domestic data link operations. Part 91 operators must be proficient with the procedures and operations associated with the use of data link communication systems in accordance with their Airplane Flight Manual (AFM) and AFM Supplement, if applicable. All operators must meet the minimum equipment requirements when participating in CPDLC operations in U.S. domestic airspace and be on the FAA Data Comm Program Office’s list of approved configurations (see the following website <https://www.harris.com/content/federal-aviation-administration-faa-data-communications-data-comm-user-information>).

**Table 1: Summary of Upgrade Requirements by Operation:**

Options	Operation	Requirements
1.	U.S. Domestic CPDLC-DCL (Departure Clearance)	<ul style="list-style-type: none"> <li>• FANS 1/A (+) over VDL Mode 0/A or VDL Mode 2</li> </ul>
2.	U.S. Domestic CPDLC-DCL and En Route clearance (See Note 1)	<ul style="list-style-type: none"> <li>• FANS 1/A (+)</li> <li>• VDL Mode 2</li> <li>• <a href="#">TSO-C160a</a> or → Alternate means of compliance for a tunable multi-frequency VDL M2 radio (See Note 2)</li> <li>• “Push to load” capability enabling the pilot to incorporate received routing changes (e.g., uplink messages UM79, UM80, and UM83) into the FMS.</li> </ul>
3.	PBCS(Oceanic/Remote Operations) only	<ul style="list-style-type: none"> <li>• FANS 1/A+ (Aircraft must be equipped with Latency Timer indicated by “+” symbol (e.g. “FANS1/A+))</li> <li>• CPDLC Performance must be RCP 240</li> <li>• ADS-C Performance must be RSP 180</li> <li>• LOA/MSpec/OpSpec B036 must state RNP 4</li> </ul>
4.	U.S. Domestic CPDLC-DCL and En Route and PBCS	<ul style="list-style-type: none"> <li>• FANS 1/A+</li> <li>• VDL Mode 2 → <a href="#">TSO-C160a</a> or → Alternate means of compliance for a tunable multi-frequency VDL M2 radio (See Note 2)</li> <li>• “Push to load” capability enabling the pilot to incorporate received routing changes (e.g., uplink messages (UM79, UM80, and UM83) into the FMS.</li> <li>• CPDLC Performance must be RCP 240</li> <li>• ADS-C Performance must be RSP 180</li> <li>• LOA/MSpec/OpSpec B036 must state RNP 4</li> </ul>

**Note:** Alternate means of compliance for a tunable multi-frequency VDL M2 radio:

1. [ARINC 631-5](#) or later
2. Documentation from the OEM or a third party STC holder stating your aircraft is capable of a tunable multi-frequency VDL M2 radio
3. See [Tables 5, 6 and 7](#) for specific directions in addressing alternative compliance.



## Summary of Reference Numbers for Attachments by Upgrade

**ALL APPLICATIONS MUST INCLUDE PAGES 9 THROUGH 11 OF THIS GUIDE COMPLETED AND PROVIDE A LETTER OF REQUEST.** Below is a summary of possible A056 authorizations (columns) with the required attachments for each operation indicated by an “X” or “As Required”. For those upgrading their current A056 authorization, use the last column and provide **only** the documentation necessary for updating the desired data link capability **and a copy of your current A056**. For further guidance on upgrading your A056 authorization, ask your PI about the specific attachments that you should submit.

**Table 2: Aircraft Eligibility Summary:**

Reference Number	New Application: U.S. Domestic DCL Only*	New Application: U.S. Domestic DCL and En route CPDLC*	New Application: DCL/Oceanic and Remote PBCS Only	New Application: DCL/Oceanic and Remote Only (Non-PBCS)	New Application: U.S. Domestic DCL, CPDLC En route, and Oceanic and Remote (PBCS)	Existing A056: Upgrade A056
<a href="#">SOC-1</a>	X*	X*	X	X	X	X**
<a href="#">EQP-1</a>	X	X	X	X	X	
<a href="#">EQP-2</a>		X			X	X**
<a href="#">EQP-3</a>		X			X	X**
<a href="#">EQP-4</a>			X		X	X**
<a href="#">EQP-5</a>			X		X	X**

**Table 3: Operational Requirements Summary:**

Reference Number	New Application: U.S. Domestic DCL Only	New Application: U.S. Domestic DCL and En route CPDLC	New Application: DCL/Oceanic and Remote PBCS Only	New Application: DCL/Oceanic and Remote Only (Non-PBCS)	New Application: U.S. Domestic DCL, CPDLC En route, and Oceanic and Remote (PBCS)	Existing A056: Upgrade A056
<a href="#">OPS-1</a>	X	X	X	X	X	
<a href="#">OPS-2</a>			X	X	X	X**
<a href="#">OPS-3</a>	X	X	X	X	X	
<a href="#">CSP-1</a>			X	X	X	X**
<a href="#">MEL-1</a>	X	X	X	X	X	
<a href="#">MEL-2</a>			X	X	X	X**
<a href="#">FLP-1</a>	X	X	X	X	X	X**
<a href="#">MON-1</a>			X	X	X	
<a href="#">MON-2</a>			X	X	X	
<a href="#">MON-3</a>			X	X	X	
<a href="#">TNG-1</a>	91K, 121, 125 135	91K, 121, 125 135	91K, 121, 125 135	91K, 121, 125 135	91K, 121, 125 135	X**
<a href="#">TNG-2</a>			91 Only	91 Only	91 Only	X**

\*A statement of compliance (SOC) is not required for U.S. domestic data link operations. Part 91 operators are not required to have a Letter of Authorization (LOA) for U.S. domestic data link operations.

\*\* Update as applicable. If not applicable, state N/A and reason (i.e. currently authorized this capability) with reference number.



**Table 4: Additional Information Summary:**

Reference Number	New Application: U.S. Domestic DCL Only	New Application: U.S. Domestic DCL and En route CPDLC	New Application: DCL/Oceanic and Remote PBCS Only	New Application: DCL/Oceanic and Remote Only (Non-PBCS)	New Application: U.S. Domestic DCL, CPDLC En route, and Oceanic and Remote (PBCS)	Existing A056: Upgrade A056
<a href="#">LTR-1</a>	X	X	X	X	X	X
<a href="#">POI-1</a>	As Required	As Required	As Required	As Required	As Required	As Required
<a href="#">DOC-1</a>	X	X	X	X	X	
<a href="#">DOC-2</a>	X	X	X	X	X	
<a href="#">DOC-3</a>	X	X	X	X	X	
<a href="#">DOC-4</a>	X	X	X	X	X	
<a href="#">DOC-5</a>	X	X	X	X	X	
<a href="#">DOC-6</a>	X	X	X	X	X	
<a href="#">DOC-7</a>	X	X	X	X	X	



**Table 5: Standardize Wording for the Limitations Column for [Table 7](#)**

Limitations	Standardized Wording for Limitation Column of Table 5
No documentation of TSO-C160A	"U.S. Domestic CPDLC En-Route Prohibited"
No equivalent documentation of <a href="#">ARINC 631-5</a> or later.	"U.S. Domestic CPDLC En-Route Prohibited"
No documentation of Push to Load (No UM79/80/83 uplink capability)	"U.S. Domestic CPDLC En-Route Prohibited"
No documentation of Latency Timer for FANS1/A+ (no plus symbol)	"PBCS Prohibited"
No documentation of RCP 240 and RSP 180	"PBCS Prohibited"
Aircraft limited to RNP 10	"PBCS Prohibited"
PBCS Prohibited	Select N/A for RCP and RSP values

**Table 6: Assessment of Alternate Means of Compliance Documentation and [Table 7](#) Entries**

Documentation Content	Entry in Table 5
No documentation of TSO-C160A but states VDL M2 radio has tunable multi-frequency capability	Place a check mark for "TSO-C160/Equivalent" under Subnetworks
AFM or STC documentation or equivalent states "Radio and CMU are tested and meet the requirements specified in TSO-C160A" or similar statement	Place a check mark for "TSO-C160a/Equivalent" under Subnetworks
No documentation of tunable multi-frequency capability	In the Limitation column enter: "U.S. Domestic CPDLC En-Route Prohibited"
Only States: "VDL Mode 2"	In the Limitation column enter: "U.S. Domestic CPDLC En-Route Prohibited"

**Note1:** Alternate means of compliance for a tunable multi-frequency VDL M2 radio:

1. ARINC [631-5](#) or later.
2. Documentation from the OEM or a third party STC holder stating that radio is a tunable multi-frequency VDL M2 radio.

**Note 2:**

- UM 79:** CLEARED TO [position] VIA [route clearance]
- UM 80:** CLEARED [route clearance]
- UM 83:** AT [position] CLEARED [route clearance]



## Naming Convention

Use the following file naming convention when submitting this document and folder (if using Acrobat option).

**A056\_Application\_Company/Name\_Date(XX\_XX\_XXXX)\_Version\_Number\_(VX)**

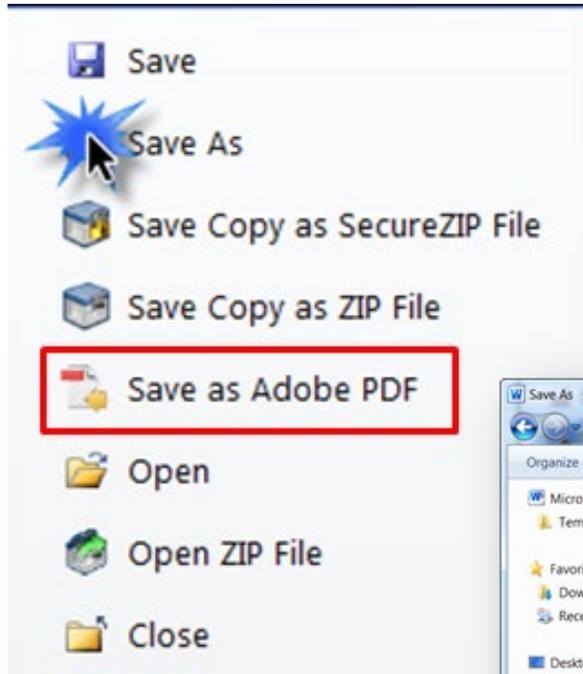
**Example: A056\_Application\_ABCAirlines\_02\_29\_2016\_V2**

Use the following file naming convention when submitting your attachments.

**A056\_Attachments\_Company/Name\_Date(XX\_XX\_XXXX)\_Version\_Number\_(VX)**

**Example: A056\_Attachments\_ABCAirlines\_02\_29\_2016\_V2**

**Note:** Version numbers are used in order for the PI to distinguish between a re-submittal of an application and the original which should be labeled beginning with V1.

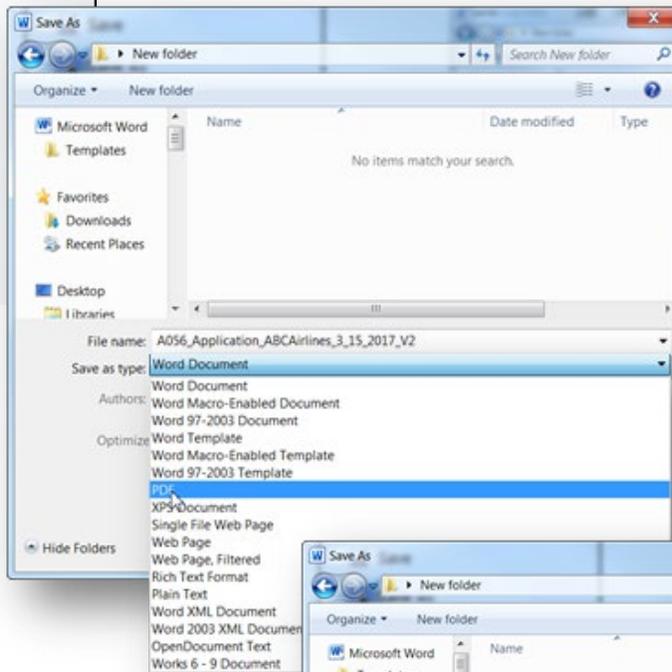


### Step 1:

In MS Word, select “Save As” under File Menu or select “Save as Adobe PDF” and skip Step 2

### Step 2:

Select “PDF” under “Save as type”



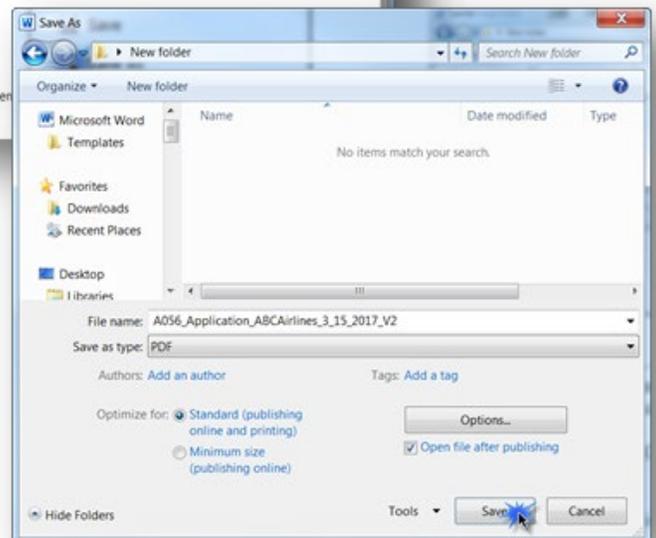
### Step 3: Saving file with naming convention.

Use the following naming convention with underlines “\_” as shown:

A056\_Application\_Your\_Company\_Name\_Date\_Version

**Example:**

**A056\_Application\_ABCAirlines\_02\_29\_2016\_V2**





# Application *(Check and fill all Items as appropriate)*

Button to Reset Form:

Date:

## *Applications:*

**U.S. Domestic DCL Only**

**U.S. Domestic DCL and En route CPDLC Only**

**DCL/Oceanic and Remote (PBCS) Only *(Part 91)***

**DCL/Oceanic and Remote (Non-PBCS) Only *(Part 91)***

**U.S. Domestic DCL, CPDLC En route, and Oceanic and Remote (Non-PBCS)**

**U.S. Domestic DCL, CPDLC En route, and Oceanic and Remote (PBCS)**

## *Adding Aircraft to Existing A056 Authorization:*

**Adding Identically Equipped Aircraft to an Existing A056**

**Adding Non-Identically Equipped Aircraft to an Existing A056**

**Note:** Separate Data Link Communication Compliance Guides must be filled out for each aircraft type to an existing A056 authorization that differ in equipage. Part 91 operators applying for a new A056 applicaton, select one of two options in orange text.

## *Upgrading an Existing A056 Authorization:*

**Upgrade Existing A056 Authorization**

**Note:** Part 91 operators do not need an A056 LOA for U.S. domestic data link operations but must have an A056 LOA for oceanic (PBCS or non-PBCS) operations.

---

## Operator Information

• Company/Operator Name:

• 14 CFR Part:

Operator Four Letter Designation:

• Address:

Suite:

• City:

State:

Zip Code:

### Contact Information:

• Contact Name:

• Contact Phone:

• Contact Email:



---

## Your Principal Inspector

First Name:

Last Name:

---

## Aircraft Information

Make:

Model:

Series:

Registration Number(s) ("N number"):

Serial Number(s):

---

## Data Link System

FANS 1/A (+) and/or ATN:

### Data Link System:

Make:

Model:

Series:

### Software:

FMS Software:

Version Number:



## Sample Authorization Table

Use the table below and provide your information as part of your application. See Tables [5](#) and [6](#) to aid you in fill out the sample authorization table.

Registration Number(s) (“N number”):

Serial Number(s):

**Table 7: Sample Authorization Table**

Button to Reset Table 7 Selections:

<b>INTEROP</b> (Check all that apply)	<b>Subnetworks</b> (Check all that apply)	<b>CSP</b>	<b>RCP</b>	<b>RSP</b>	<b>Limitations</b> (If no limitations, type “N/A”)
FANS 1/A (+) with “push to load”  FANS 1/A (+) without “push to load”  ATN B1  B2	VDL Mode 0/A  VDL Mode 2 TSO C-160/ Equivalent*  VDL Mode 2 TSO C-160a or later/Equivalent*  HFDL  SATCOM (Iridium)  SATCOM (Inmarsat)  *See <a href="#">Table 6</a>	Rockwell-Collins (ARINC)  SITA  Other: (Enter Below)			U.S Domestic CPDLC En Route Only  ADS-C Only  U.S. Domestic CPDLC En-Route Prohibited  PBCS Prohibited  Other: (Enter Below)  (Use standardized wording from <a href="#">Table 5</a> and <a href="#">6</a> for free text)



**Section**  
**2**

## Section 2: Aircraft Eligibility

For each attachment, provide the necessary page(s)/paragraph(s) to establish compliance. Include the corresponding reference numbers with each attachment or hyperlink the reference number to highlighted documentation. If an item does not apply, leave the item unchecked and for the attachment include a page with the reference number and N/A. Specific airworthiness guidance is provided in [AC 20-140\(\)](#). For domestic operations only, RCP/RSP performance is not necessary and operators should select N/A in the sample [Table 7](#). Part 91 operators are not required to have an A056 authorization for U.S. domestic operations. **The use of highlights, outlines, tables and/or hyper-links for your supporting documentation will greatly reduce the application process time. Include only the applicable page or paragraph to show compliance. Attaching irrelevant documentation other than the requested page/paragraph to show compliance delays the application process. Providing Service Information Letters (SILs) or other OEM communication DOES NOT verify installation on your aircraft. Maintenance records must show installation per the SILs/OEM communication that you provide..**

### Statement of Compliance (SOC):

Check Box	Reference Number	SOC Attachment
	SOC-1	<p>Provide an OEM Statement of Compliance (SOC) or updated SOC if adding data link capability to an existing A056 OpSpec/MSpec/LOA. The SOC must indicate interoperability (INTEROP) (See <a href="#">AC 90-117, p. C-3, Table C-3</a>). This may be documentation from the aircraft manufacturer, the manufacturer of the data link system, or another party in the AFM, AFM Supplement, or other acceptable documentation. Include the subnetworks supported by your aircraft (i.e. VDL M0/A, VDL M2, HFDL, Inmarsat, Iridium etc.). The compliance statement should reference AC 20-140A or later revision for any of the following performance specifications:</p> <ul style="list-style-type: none"> <li>• RCP 400 and/or RCP 240</li> <li>• RSP 400 and/or RSP 180</li> </ul> <p>The compliance statement should reference AC 20-140C or later revision for:</p> <ul style="list-style-type: none"> <li>• RCP 130 and/or RCP 240 and/or RCP 400</li> <li>• RSP 160 and/or RSP 180 and/or RSP 400</li> </ul> <p><b>Note 1:</b> Documentation of the lowest RCP and RSP value is adequate for showing compliance. Fleet aircraft records for each tail number may not necessarily have the same RCP/RSP values for each M/M/S. In such cases, provide documentation for each aircraft.</p> <p><b>Note 2:</b> For a FANS 1/A+ CPDLC and ADS-C aircraft system, <a href="#">RTCA DO 306/ EUROCAE ED 122</a> is equivalent to RCP 240, RCP 400, RSP 180 and RSP 400 specifications.</p> <p><i>(<a href="#">AC 90-117, p. 3-2 and p. C-3</a>)</i></p>



## Equipage Attachments:

Check Box	Reference Number	Equipage Attachments
	EQP-1	<p>Provide documentation of maintenance and manufacturer/model of data link equipment installation records (AFM, Service Bulletins and Aircraft Service Changes (ASC) related to data link communications, Supplemental Type Certificates (STCs) etc.) Provide documentation of the following installed data communication equipment:</p> <ul style="list-style-type: none"> <li>• FANS 1/A (Satellite, HF, VHF) equipment and/or ATN (VDL 2) VHF equipment</li> <li>• Data communications recording equipment (CVR, CVFDR etc.) See Part 91, §<a href="#">91.609(j)</a> and InFO <a href="#">16004</a>. Provide documentation that the cockpit voice recorder(s) and flight data recorder(s) are in compliance with 14 CFR Part §<a href="#">91.609(j)</a>, Part §<a href="#">121.359(k)</a>, §<a href="#">125.227(i)</a>, §<a href="#">135.151(h)</a>. FAA <a href="#">INFO 16004</a> provides additional guidance concerning the applicability of these regulations (<a href="#">AC 90-117, p.1-5 and p. 3-1</a>)</li> </ul>
	EQP-2	<p>For U.S. domestic airspace en route operations, provide documentation that the aircraft is equipped with VDL M2. The VDL M2 requirement must include a tunable multi-frequency VDL M2 radio approved to an aircraft eligibility standard of <a href="#">TSO-C160a</a>.</p> <p>Alternate means of compliance for a tunable multi-frequency VDL M2 radio:</p> <ol style="list-style-type: none"> <li>1. <a href="#">ARINC 631-5</a> or later (See <a href="#">Table 6</a> for table entry explanations)</li> <li>2. Documentation from the OEM or a third party STC holder stating your aircraft is capable of a tunable multi-frequency VDL M2 radio</li> <li>3. See <a href="#">Tables 5 and 6</a> for specific directions in addressing alternative compliance.</li> </ol> <p><b>Note :</b> If not equipped with VDL M2 or the above alternate means of compliance using VDL mode 2, the operator may use an alternate non-VDL M2 in coordination with their CSP(s) as per <a href="#">AC 90-117. (AC 90-117, p. 3-3)</a></p>
	EQP-3	<p>For en route U.S. domestic airspace operations, provide documentation the avionics system has “push to load” capability enabling the pilot to incorporate received routing changes (e.g., uplink message (UM79, UM80, and UM83) into the FMS. (<a href="#">AC 90-117, p. 3-2</a>)</p>
	EQP-4	<p>Provide documentation the FANS 1/A system includes message latency monitoring indicated by the “+” symbol. RCP 240 requires latency monitoring. Contact/ check manufacturer about ability to meet latency requirements. See <a href="#">OPS-2</a> for pilot procedures.</p>
	EQP-5	<p>For PBCS airspace authorization, provide a copy of your B036 with at least RNP 4 listed in Table 1. If you are applying for a A056 and B036 at the same time, provide documentation that your aircraft is capable of at least RNP 4 as part of of this attachment. <a href="#">NAT OPS Bulletin 2018 004</a></p>



**Section**  
**3**

## Section 3: Operational Requirements

**F**or each attachment, provide the necessary page(s)/paragraph(s) to establish compliance. Include the corresponding reference numbers with each attachment or hyperlink the reference number to highlighted documentation. If an item does not apply, leave the item unchecked and for the attachment include a page with the reference number and N/A.

This section includes the minimum operational requirements in the following areas:

1. Operational Procedures
2. Communication Service Provider (CSP) Requirements
3. Master Minimum Equipment List/Minimum Equipment List (MMEL/MEL)
4. Flight Plans
5. Monitoring Performance and Reporting
6. Training

### Operational Procedures

Establish policies and procedures for pilots and operational staff involved in data link operations and incorporate them in the appropriate operations manuals. **The use of highlights, outlines, tables and/or hyper-links for your supporting documentation will greatly reduce the application process time. Include only the applicable page or paragraph to show compliance. Attaching irrelevant documentation other than the requested page/paragraph to show compliance only delays the application process.**

Check Box	Reference Number	Operational Attachments
	OPS-1	Attach (page/paragraph) of operational data link procedures to include procedures and limitations applicable to data link communication specific to the installed CPDLC avionics on your aircraft. Include both normal and emergency operations in compliance with <a href="#">AC 90-117</a> from the following documents: <ul style="list-style-type: none"> <li>• Airplane Flight Manual (AFM),</li> <li>• AFM Supplement,</li> <li>• Aircraft Operating Manual, and/or</li> <li>• International Operations Manual (IOM),</li> </ul> <b>Note:</b> Generic procedure manuals do not qualify.



Check Box	Reference Number	Operational Attachments
	OPS-2	Provide documentation (i.e. AFM, AFM Supplement, IOM) of crew operational procedures for changing latency timer value. <i>(See <a href="#">AC 90-117</a>, p. 5-2. For latency timer, see <a href="#">NAT OPS Bulletin 2018_002, Rev 1</a>)</i>
	OPS-3	Attach documentation of procedures for establishing and maintaining voice communications (including any required SELCAL check(s)). ( <a href="#">AC 90-117</a> , p. 5-5)

## Communication Service Provider (CSP) Eligibility

The operator is responsible to ensure their CSP provides the minimum performance and service.

Check Box	Reference Number	CSP Attachment
	CSP-1	<p>Provide charter membership documentation for both the operator and CSP(s). When providing documentation of charter membership, provide a screen shot of the charter stakeholders with your name/company name included in the screen capture (<a href="#">See Appendix B, Becoming a Charter Member</a>).</p> <p><b>Note:</b> Operators and CSPs need only to become charter members by following the instructions at <a href="http://www.fans-cra.com/">http://www.fans-cra.com/</a>. See <a href="#">Appendix B</a> of this guide.</p> <p><i>or</i></p> <p>Submit documentation of each CSP arrangement. They must provide the following services to be included in your documentation:</p> <ol style="list-style-type: none"> <li>1. Failure Notification,</li> <li>2. Recording data link messages,</li> <li>3. CSP Integrity,</li> <li>4. Compliance with CSP allocations for RCP/RSP, and</li> <li>5. Adequate subnetwork coverage for the route flown.</li> </ol> <p><i>(<a href="#">AC 90-117</a>, p. 4-1 and 4-5)</i></p>



## MEL/MMEL

Check Box	Reference Number	MEL/MMEL Attachments
	MEL-1	<p>Provide documentation of your Minimum Equipment List (MEL) or Master Minimum Equipment List (MMEL) that addresses all data communication equipment (Section 23).</p> <p><b>Note:</b> If MMEL has not been updated for CPDLC equipment for aircraft that are issued an STC, the operator is reminded that they must adhere to <a href="#">14 CFR 91.213</a>. (<i>AC 90-117, p. 5-1 and pp. B-1 and B-2</i>)</p>
	MEL-2	<p>For operators conducting oceanic and remote continental operations, provide documentation of your HF Minimum Equipment List (MEL) or Master Minimum Equipment List (MMEL) to confirm no credit is given for data link.</p> <p><b>Note:</b> Reference FAA Policy Letter 106, (<a href="#">PL-106</a>), High Frequency (HF) Communications MMEL Requirements.</p>

## Flight Plans

**Eighty percent (80%) of A056 applications do not submit flight plan codes per their aircraft’s capabilities.** International and Domestic CPDLC operations use different flight plan codes in field 18. Verify that your Flight Plan vendor has the correct codes and equipage in their database. Failing to file the correct flight plan codes can result in less than optimal ATC routings and increase fuel consumption. Submit the correct flight plan codes for both domestic and international flight plans. Your sample crew operational flight plan must have an adequate fuel load to include Contingency and Final Reserve (Holding) fuel in accordance with the applicable parts of ICAO Annex 6 and any applicable regulations in 14 CFR, whichever is greater..

Refer to the following links:

- [FAA Flight Plan Brochure](#)
- [Tables for DAT/ codes for Field 10 \(pp. 20 and 21 of this guide\)](#)

Check Box	Reference Number	Flight Plan Attachment
	FLP-1	<p>Your aircraft equipage <b>MUST</b> match your flight plan codes for the Comm/Nav/Surveillance requirements in the airspace you are flying. Verify that your flight plan vendor has all the correct codes and equipage in their database for domestic and international flight plans. You <b>MUST</b> provide flight plans for:</p> <ol style="list-style-type: none"> <li>1. CPDLC operations in US airspace (ATC (i.e. fields 10a, 10b and 18) and crew operational flight plan (i.e. routing, fuel, contingencies)), and</li> <li>2. International flight plan (ATC (i.e. fields 10a, 10b and 18) and crew operational flight plan (i.e. routing, fuel, contingencies)) if your operation will include future oceanic/remote continental operations.</li> </ol> <p>Below are resources to aid in your flight planning:</p> <ul style="list-style-type: none"> <li>• FAA <a href="#">Form 7233-4</a></li> <li>• <a href="#">Appendix A of this guide</a></li> </ul>

**Note:** If you are not PBCS capable, do not include a P2 entry in Field 10a and SUR/RSP180 in Field 18 of the flight plan.



## Performance Monitoring

Check Box	Reference Number	Monitoring Attachments
	MON-1	Provide documentation of your data link monitoring process with procedures to address substandard performance. ( <i>AC 90-117, pp. 6-1 and 6-2</i> )
	MON-2	Provide documentation of procedures to report data link communication failures and/or problems. This should include contacting the appropriate Data Link Monitoring Agency (DLMA) for your area of operation. ( <i>AC 90-117, p. 8-1</i> )
	MON-3	Provide documentation of demonstrated performance results from: <a href="https://www.faa.gov/air_traffic/separation_standards/PBCS_Monitoring/">https://www.faa.gov/air_traffic/separation_standards/PBCS_Monitoring/</a> ( <i>AC 90-117, p. 6-2</i> ) <b>Note:</b> If no data or insufficient data, then compliance is based on the SOC.

## Training

Check Box	Reference Number	Training Attachments
	TNG-1	Part 91K, 121, 125, and/or 135 operators. Provide a training syllabus of your training program. Your training must address the operational practices, procedures and training items related to data link communication operations (e.g., during initial, upgrade, or recurrent training for pilots, operational control personnel, and maintenance personnel). Training curricula should be in accordance with AC 90-117, §§ 91.3, 91.703(a) (1) and (2) and ICAO Annex 2 (Rules of the Air), paragraph 2.5.1. ( <i>AC 90-117, Chapter 7</i> )
	TNG-2	Part 91 Operators. Provide documentation (e.g. training syllabus, training completion certificate/ record of completed training) that pilots were provided data link communication training. <b>Part 91 operators must be proficient with the procedures and operations associated with the use of data link communication systems in accordance with their Airplane Flight Manual (AFM) and AFM Supplement if applicable.</b> ( <i>AC 90-117, p. 7-1, LOA A056</i> ) <b>Note:</b> Operators who hire contract pilots must provide your process of verifying data link training in accordance with LOA, A056.



**Section**  
**4**

## Section 4: Additional Information

### Letter of Request and Additional Documentation.

This section is reserved for a letter of request and any additional information that may be requested by your Principal Inspector (PI). It also provides a list of important documentation that all A056 applicants should read and understand. For each attachment, provide the necessary page(s)/paragraph(s) to establish compliance. Include the corresponding reference number with the attachment or hyperlink the reference number to highlighted documentation. If an item does not apply, leave the item unchecked and for the attachment include a page with the reference number and N/A.

### Letter of Request

All applications must have a letter of request. Within the body of your letter, clearly state what you are expecting from an A056 authorization/revision as per the columns of [Tables 2 through 4](#) of this guide.

Check Box	Reference Number	Letter of Request
	LTR-1	Attach your letter of request.

### PI Requested Documentation

In some instances, your PI may want additional documentation that is unique to your operations. If your PI has not request additional documentation under POI-1, then just leave it unchecked and place POI-1 and N/A as part of your attachments.

Check Box	Reference Number	Additional PI Requested Documentation
	POI-1	If requested, attach additional documentation requested by your PI. Place N/A if your PI did not request additional documentation.



## Document Review

Check each document below to indicate you are familiar with each. No attachments are necessary for this section.

Check Box	Reference Number	Document List
	DOC-1	<a href="#">AC 90-117</a> , Data Link Communications
	DOC-2	<a href="#">AC 20-140</a> ( ) Guidelines for Design Approval of Aircraft Data Link Communication Systems Supporting Air Traffic Services (ATS).
	DOC-3	Global Operational Data Link (GOLD) Manual ( <a href="#">Doc 10037</a> ), ICAO.
	DOC-4	Performance-based Communication and Surveillance (PBCS) Manual ( <a href="#">Doc 9869</a> ), ICAO.
	DOC-5	State Aeronautical Information Publications (AIP). ( <a href="#">U.S. Link</a> )
	DOC-6	State Notices to Airmen (NOTAM). ( <a href="#">U.S. Link</a> )
	DOC-7	<a href="#">FAA chart supplements</a> , Oceanic Errors Safety Bulletin (OESB) ( <a href="#">NAT OPS Bulletins</a> ).



**Appendix**

**A**

# Appendix A: Flight Plan Com Descriptors

**Table A-1. Item 10a Flight Plan COM Descriptors**

Descriptors	System	Data Link Operation
E1	FMC WPR ACARS	May be used for short position reports
E2	D-FIS ACARS	Short transmission of weather reports and operational data
E3	PDC ACARS	U.S. Domestic
J1	CPDLC ATN B1 VDL M2	U.S. Domestic*/Europe for ground clearance and en route
J2	CPDLC FANS 1/A HFDL	Oceanic and Remote Continental
J3	CPDLC FANS 1/A VDL Mode 0/A	U.S. Domestic (Ground Clearance Only)
J4	CPDLC FANS 1/A VDL Mode 2	U.S. Domestic for ground clearance and en route*
J5	CPDLC FANS 1/A SATCOM (Inmarsat)	Oceanic and Remote Continental
J6	CPDLC FANS 1/A SATCOM (MTSAT)	Oceanic and Remote Continental
J7	CPDLC FANS 1/A SATCOM (Iridium)	Oceanic and Remote Continental
P1	CPDLC RCP 400	Oceanic and Remote Continental
P2	CPDLC RCP 240	Oceanic and Remote Continental and PBCS operations**
P3	SATVOICE RCP 400	Oceanic and Remote Continental
M1	Inmarsat	Oceanic and Remote Continental
M2	MTSAT	Oceanic and Remote Continental
M3	Iridium	Oceanic and Remote Continental

\*The VDL M2 requirement for U.S. domestic en route operations must include a tunable multi-frequency VDL M2 radio approved to an aircraft eligibility standard of [TSO-C160a](#) or have an alternate means of compliance as described in [EQP-2](#) of this guide. Enroute domestic operations also must have a “push to load” capability enabling the pilot to incorporate received routing changes (e.g., uplink message (UM79, UM80, and UM83) into the FMS supported by B2 and FANS 1/A (+) operations.

\*\* PBCS aircraft must be FANS 1/A+ equipped (latency timer indicated by the “+” symbol).

Note: Part 91 operators filing “J” codes for U.S. domestic data link services must have a data link authorization to file J5–J7 in oceanic and remote continental airspace.



**Flight Plan Example:**

If Actual Communications Performance (ACP) meets at least RCP 240 at a performance of at least 95 percent or greater and Actual Surveillance Performance (ASP) meets at least RSP 180 of at least 95 percent or greater, then the operator approved for RCP 240/RSP 180 may file the following:

- Field 10a: “P2.”
- Field 18: “SUR/RSP180.”

**Table A-2. Item 10b Flight Plan COM Descriptors**

Descriptors	System	Data Link Operation
D1	ADS-C with FANS 1/A capabilities	Oceanic and Remote Continental
G1	ADS-C with ATN capabilities	Oceanic and Remote Continental

In Item 10b of the flight plan, operators should insert one of the descriptors, D1 and G1, as appropriate, listed in Table A-2, to identify an aircraft’s RSP capability.

## DAT/ Codes for U.S. Domestic CPDLC Operations

**Table A-3. PDC and CPDLC-DCL only**

User Preference	Capability Description	Field 10a	Field 18 DAT/Code	Comments
PDC only	Not ACARS equipped but gets PDC via manual means.	Z	1PDC	Some aircraft are non-ACARS equipped, and 10a is a physical equipage. Still get PDC via other means (e.g. gate printer). Optional if currently getting PDC.
PDC only	Equipped only for ACARS/PDC	E3 Z	1PDC	Optional if currently getting PDC
PDC only	Equipped for ACARS/PDC and FANS but wants PDC only.	E3J4x Z	1PDC	Equipped for ACARS/PDC and FANS 1/A or 1/A +, and possible other capabilities (Jx)
FANS 1/A & FANS 1/A+ CPDLC-DCL/PDC	Equipped for ACARS/PDC and FANS but wants FANS 1/A or FANS 1/A+ only for CPDLC-DCL	J4Jx Z	1FANS	Identifies US domestic preference for FANS 1/A or FANS 1/A+ CPDLC-DCL
FANS 1/A & FANS 1/A+ CPDLC-DCL/PDC	Equipped for ACARS/PDC and FANS, with primary/secondary preferences.	E3J4Jx Z	1FANS2PDC	Code number shows priority preference (e.g. CPDLC-DCL is primary preference; PDC is secondary that will be used if primary is unavailable and feasible.)



**Table A-4. PDC ONLY and En Route Data Link Clearances**

User Preference	Capability Description	Field 10a	Field 18 DAT/Code	Comments
FANS 1/A & FANS 1/A+ No En Route UM80 load issues	For flights authorized for en route data link with no UM80 load issues and for PDC services only	E3J4Jx Z	1PDCFANSE	This code is to be used to obtain PDC and CPDLC enroute clearances with aircraft that <u>have no</u> en route UM80 issues.
FANS 1/A & FANS 1/A+ With en route UM80 load issues	For flights authorized for en route data link with UM80 load issues and for PDC service only	E3J4Jx Z	1PDCFANSER	This code is to be used to obtain a PDC and CPDLC en route clearances with aircraft that <u>have</u> en route UM80 load issues.

**Table A-5. CPDLC-DCL and En Route Data Link Clearances**

User Preference	Capability Description	Field 10a	Field 18 DAT/Code	Comments
FANS 1/A & FANS 1/A+ No En Route UM80 load issues	For flights authorized for enroute data link with no UM80 load issues.	E3J4Jx Z	1FANSE2PDC	This code is to be used to obtain CPDLC-DCL and en route clearances with aircraft that <u>have no</u> UM80 load issues.
FANS 1/A & FANS 1/A+ With en route UM80 load issues	For flights authorized for en route Data Comm with UM80 load issues	E3J4Jx Z	1FANSER2PDC	This code is to be used to obtain CPDLC-DCL and en route clearances with aircraft that <u>have</u> UM80 load issues.

**Table A-6. En Route Data Link Clearances ONLY**

User Preference	Capability Description	Field 10a	Field 18 DAT/Code	Comments
FANS 1/A & FANS 1/A+ No En Route UM80 load issues	For flights authorized for En Route Data Comm with no UM80 load issues.	J4 Z	FANSE	This code is to be used to obtain CPDLC en route clearances with aircraft that <u>have no</u> UM80 load issues. (No tower DCL or PDC)
FANS 1/A & FANS 1/A+ With en route UM80 load issues	For flights authorized for en route data link with UM80 load issues.	J4 Z	FANSER	This code is to be used to obtain CPDLC en route clearances with aircraft that <u>have</u> UM80 load issues. (No tower DCL or PDC.)

**Note 1:** It makes no difference whether “FANS or FANSP” is filed in a flight plan. Either entry will result in a Data Comm clearance.

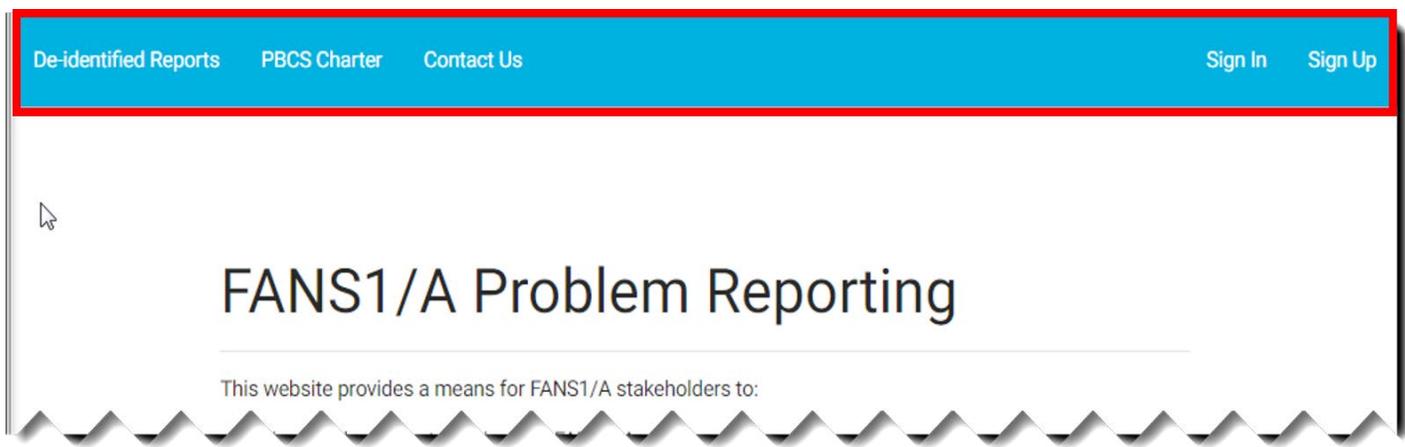
**Note 2:** UM80 is CLEARED [route clearance]

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## Appendix B: Quick Website Navigation Guide

For FANS 1/A Problem reporting and/or charter membership go to: <http://www.fans-cra.com/>. This appendix provides screen shots for navigating the website to report a data link problem and/or charter membership.

### Home Page Menu



The Home Page header has five user function tabs:

1. De-identified Reports
2. PBCS Charter
3. Contact Us
4. Sign In – Note: current users of the ISPACG-CRA/NAT DLMA/ FIT-ASIA website please continue to use your existing username/password. Do not sign up again.
5. Sign Up



# De-Identified Reports

The De-identified Reports list is controlled by the appropriate regional Central Reporting Agency/ Data Link Monitoring Agency (CRA/DLMA).

Reports displayed in this list have been assigned to the list by the CRA/DLMA.

A user may download the de-identified reports in EXCEL format using the DOWNLOAD button

**FANS1/A Problem Reporting**

De-identified Reports

CRA Ref	Region	Status	Type	Title
2529-MM	NAT TIG	Closed	AIR - Procedural - Flight Crew Action	A/C Queried CPDLC Re-route but None was Uplinked
2512-MM	NAT TIG	Closed	2508-SH IPACG FIT	AIR - Technical - Avionics Fault
2508-SH	IPACG FIT	Active	2506-MM NAT TIG	Closed As Duplicate
			2485-SH NAT TIG	Closed
2506-MM	NAT TIG	Closed	2492-MM IPACG FIT	Closed As Duplicate
			2460-RP FIT-ASIA	Closed As Duplicate
2500-MM	NAT TIG	Closed	1479-MM NAT TIG	Closed
			1763-RP IPACG FIT	Open
2500-MM	NAT TIG	Closed	2467-MM NAT TIG	Closed As Duplicate
			2498-MM NAT TIG	Closed
2500-MM	NAT TIG	Closed	2500-MM NAT TIG	Closed As Duplicate
			2487-SH NAT TIG	Closed As Duplicate
2500-MM	NAT TIG	Closed	2136-MM NAT TIG	Closed As Duplicate
			2123-GS NAT TIG	Open
2500-MM	NAT TIG	Closed	2134-SN ISPACG FIT	Open
			2131-GS NAT TIG	Closed As Duplicate
2500-MM	NAT TIG	Closed	2512-MM NAT TIG	Closed
			2143-GS NAT TIG	Closed
2500-MM	NAT TIG	Closed	2140-GS NAT TIG	Closed
			2145-GS NAT TIG	Closed
2500-MM	IPACG FIT	Closed	2139-MM IPACG FIT	Closed As Duplicate
			2155-MM ISPACG FIT	Closed As Duplicate
2500-MM	NAT TIG	Active	2153-SN NAT TIG	TBA
			2156-SN NAT TIG	Closed
2500-MM	NAT TIG	Active	2154-SN NAT TIG	TBA
			2152-MM NAT TIG	Active
2500-MM	NAT TIG	Closed	2146-MM NAT TIG	Closed
			2159-SN ISPACG FIT	Open
2500-MM	IPACG FIT	Open	2157-SH IPACG FIT	Open
			2164-BH FIT-ASIA	Open

**Excel Spreadsheet**



# PBCS Charter Sign-In

The PBCS Charter link provides the sign-in screen for charter members.

The screenshot shows the 'FANS1/A Problem Reporting' page with the 'PBCS Charter' link highlighted in the navigation bar. An orange arrow points from the 'PBCS Charter' link to a zoomed-in view of the sign-in form. The form includes fields for 'Username' (with a user icon) and 'Password' (with a lock icon), and a 'SIGN IN' button. The navigation bar also contains 'De-identified Reports', 'Contact Us', 'Sign In', and 'Sign Up' links.

# Contact Us

A "Contact Us" function is provided for CRA/DLMA and website queries.

The screenshot shows the 'FANS1/A Problem Reporting' page with the 'Contact Us' link highlighted in the navigation bar. An orange arrow points from the 'Contact Us' link to a zoomed-in view of the contact form. The form includes fields for 'Name', 'Email', and 'Message', and a 'SEND' button. The navigation bar also contains 'De-identified Reports', 'PBCS Charter', 'Sign In', and 'Sign Up' links.



# Sign-Up

The sign-up link allows stakeholders to request access to the website. Fill in the requested details and then click the SIGN UP button. This action will log the stakeholders information on the website and advise the CRA that a new user application has been received.

The CRA will process the user request, assign the new user the appropriate permissions, and advise the new user if their application has been successful.

**Notes:**

1. Display Name: Enter the name to be displayed on the “My Reports” page after logging in.
2. Additional Emails: List all other emails that are to be used in automatic email notifications from the website for this log-on.
3. Username/Password: Enter the username and password that you want to use on this site
4. Email: List your primary email contact
5. Organization: Enter your company name.
6. Location: Enter city and country.

The screenshot shows the 'FANS1/A Problem Reporting' website. The top navigation bar includes links for 'De-identified Reports', 'PBCS Charter', 'Contact Us', 'Sign In', and 'Sign Up'. An orange arrow points from the 'Sign Up' link to a sign-up form. The form contains the following fields:

- Username: \_\_\_\_\_
- Password: \_\_\_\_\_
- First Name: \_\_\_\_\_
- Last Name: \_\_\_\_\_
- Email for CRA communications: \_\_\_\_\_
- Email for CSP Outage Notifications(If Required): \_\_\_\_\_
- Display Name (If Applicable): \_\_\_\_\_
- Organisation: \_\_\_\_\_
- Location: \_\_\_\_\_
- Phone Number: \_\_\_\_\_
- Additional Emails (separate by semicolon or space): \_\_\_\_\_

A blue 'SIGN UP' button is located at the bottom right of the form.

# Sign-In

Once you have signed-up for the website, use your username and password as shown below.

The first screenshot shows the top navigation bar with links for 'De-identified Reports', 'PBCS Charter', and 'Contact Us'. The 'Sign In' and 'Sign Up' links are highlighted with a hand cursor. An orange arrow points from the 'Sign In' link to the second screenshot.

The second screenshot shows the login form with the following fields and elements:

- Username: Your Username
- Password: [Redacted]
- SIGN IN button

An orange arrow points from the 'SIGN IN' button to the third screenshot.

The third screenshot shows the 'MY REPORTS' page with a table of reports logged by the user:

ID	Reference	Title	Date	Status
ZOA-2018-001	2548-SH	No data in the Predicted Route Group for the entire flight	15.11.2017	Active
ZOA-2017-006	2514-SH	Delayed ADS-C reports and MAS Failures observed with multiple aircraft	20.09.2017	Active
ZOA-2017-005	2513-SH	Unexpected WILCO	12.10.2017	Active



## New Report

After signing-in, the first link in the header is “Report”. Selecting Report gives two options: New Report and My Reports. Below displays the form for filing a new report.

The screenshot shows the FAA reporting interface. At the top, a blue navigation bar contains the following links: Report, De-identified Reports, Performance Data, PBCS Charter, Contact Us, Manual, and FAA (United States). A dropdown menu is open under 'Report', showing 'New Report' and 'My Reports'. An orange arrow points from the 'New Report' link to the form below.

The form is titled 'MY REPORTS' and 'SEARCH'. It contains a table of 'Reports Logged by Me' and a form for filing a new report.

ID	Reference	Title
ZOA-2018-001	2548-SH	No da
ZOA-2017-006	2514-SH	Delay aircra

The form fields are:

- Originator's Reference Number: \_\_\_\_\_
- Title: \_\_\_\_\_
- Date UTC (YYYY-MM-DD): 2018-01-16
- Time UTC: \_\_\_\_\_
- Registration: \_\_\_\_\_
- Flight Identifier: \_\_\_\_\_
- Departure and Arrival Airports: \_\_\_\_\_
- Aircraft Type: \_\_\_\_\_
- Active Center: \_\_\_\_\_
- Next Center: \_\_\_\_\_
- Position: \_\_\_\_\_



## My Reports

The My Reports page opens by default on logging in and displays four sections:

- “Reports Pending CRA action”;
- “Reports Logged by Me”;
- “Reports Assigned to me”; and
- “Closed Reports relating to Me”.

A **DOWNLOAD** button associated with each section allows the user to download the reports in an **EXCEL** format.

The screenshot shows the FAA My Reports interface. On the left is a sidebar with a 'My Reports' button highlighted by a hand icon. The main content area features a search bar and a table titled 'Reports Logged by Me'. A blue 'DOWNLOAD' button is positioned above the table. An orange arrow points from the top navigation bar to the table area.

ID	Reference	Title	Date	Status
ZOA-2018-001	2548-SH	No data in the Predicted Route Group for the entire flight	15.11.2017	Active
ZOA-2017-006	2514-SH	Delayed ADS-C reports and MAS Failures observed with multiple aircraft	20.09.2017	Active
ZOA-2017-005	2513-SH	Unexpected WILCO	12.10.2017	Active
ZNY2017-002	2475-MM	Aircraft Unable to Establish Connection to KZWY or LPPO	13.07.2017	Active
ZOA-2017-004	2470-SH	ADS-C position reports received with a Figure of Merit Value of 0	05.08.2017	Active



## Upload Data

The “Performance Data” option in the my reports header provides a means to display FANS1/A performance data. Selecting performance data gives the following options:

Upload Data: Only displayed if user has required permissions.

View Data: Displays any performance data that has been uploaded (See image below).

CRA Ref	Region	Status	Type	Title
2529-MM	NAT TIG	Closed	AIR - Procedural - Flight Crew Action	A/C Queried CPDLC Re-route but None was Unlinked
2512-MM	NAT TIG	Closed	AIR - Procedure	Crew Action
2508-SH	IPACG FIT	Active	AIR - Technical Fault	
2506-MM	NAT TIG	Closed As Duplicate	AIR - Technical Fault	
2500-MM	NAT TIG	Closed As Duplicate	AIR - Technical Fault	

## View Data



# PBCS Charter

Under PBCS Charter, stakeholders can view the charter on-line as shown below by clicking on the various charter sections or by means of downloading the charter by clicking the “DOWNLOAD PDF” button.

The screenshot shows the top navigation bar with 'PBCS Charter' selected. Below it, a 'MY REPORTS' section contains a table titled 'Reports Logged by Me'.

ID	Reference	Title
ZOA-2018-001	2548-SH	No data in the Predicted R
ZOA-2017-006	2514-SH	Delayed ADS-C reports an aircraft
ZOA-2017-005	2513-SH	Unexpected WILCO

An orange arrow points from the 'PBCS Charter' menu item to a larger screenshot of the charter document page.

# View PBCS Charter

The screenshot shows the 'PBCS CHARTER' section of the document. It includes a table of contents and a detailed view of the first section.

Section
1 Charter Purpose and Applicability
2 References
3 Term
4 Confidentiality
5 No Basis for Claims
6 Support of PBCS by Stakeholders
7 Administration of Charter

The detailed view of '1 Charter Purpose and Applicability' includes the following text:

1.1 This PBCS Charter facilitates co-operation among all PBCS stakeholders to achieve the objectives of PBCS. Each Charter stakeholder agrees to take the actions herein for which the required communication performance (RCP) and required surveillance performance (RSP) specifications have been prescribed.

The entities eligible to become a PBCS Charter stakeholder 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.
- Aircraft equipment suppliers.

1.2 This Charter may be used to show ANSP and operator stakeholder compliance to PBCS Manual guidance specifying contract/service agreements with the CSP. This commitment to compliance is shown when the ANSP or operator PBCS stakeholder has become a charter stakeholder through signing this charter and the CSP(s) they use have also signed the charter. Should an ANSP or operator PBCS stakeholder subsequently withdraw their charter signature or any of their contracted CSPs withdraw their charter signature, the ANSP and/or operator must notify their state authority since such withdrawal will affect their PBCS operational authorization.

2 References

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

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

An orange arrow points from the table of contents to the detailed view. A red box highlights the 'DOWNLOAD PDF' button, with a hand icon pointing to it.



## Becoming a Charter Member

Clicking “CHARTER STAKEHOLDERS” results in a list of current charter members. If you are not a charter member, click “YOUR CHARTER STATUS” and enter your name, email, and check the box that shows your username and then click “UPDATE”. When providing documentation of charter membership, provide a screen shot of the charter stakeholders with your name included within the screen capture.

The screenshot shows the PBCS Charter web application interface. The top navigation bar includes 'Report', 'De-identified Reports', 'Performance Data', 'PBCS Charter', 'Contact Us', and 'Manual'. The main content area has three tabs: 'PBCS CHARTER', 'CHARTER STAKEHOLDERS', and 'YOUR CHARTER STATUS'. The 'CHARTER STAKEHOLDERS' tab is selected, showing a list of stakeholders with checkboxes for selection. The 'YOUR CHARTER STATUS' tab is also visible, showing a form for entering user information and an 'UPDATE' button. Orange arrows indicate the flow from the 'CHARTER STAKEHOLDERS' tab to the 'YOUR CHARTER STATUS' form.

**Navigation:** PBCS CHARTER | CHARTER STAKEHOLDERS | YOUR CHARTER STATUS

**Stakeholders List:**

- Aircraft Manufacturers and Aircraft Equipment Suppliers**
  - Airbus
  - Boeing
- Communication Service Provider**
  - Rockwell Collins IMS (ARINC)
  - SITAONAIR
- ANSP and CAA**
  - Airways New Zealand
  - Isavia (Iceland)
- Aircraft Operator**

**YOUR CHARTER STATUS Form:**

Your Username

PBCS Charter - Point of Contact

Name: \_\_\_\_\_

Email: \_\_\_\_\_

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**



# Appendix C: Definitions and Acronyms

## Definitions

### A

**Aircraft Communications Addressing and Reporting System (ACARS).** ACARS is a digital datalink system for transmission of short messages between aircraft and ground stations via airband radio or satellite. ACARS as a term refers to the complete air and ground system, consisting of a service provider and aircraft/ground equipment.

**Automatic Dependent Surveillance-Contract (ADS-C).** ADS-C is a surveillance information system using automated reports. An agreement is established between the ground system and the aircraft via a data link. Without pilot input, the ATSU can establish a “contract” to provide reports of aircraft position, altitude, speed, elements of navigational intent and meteorological data. The system can generate the following types of reports:

- Periodic—The ATSU can set or alter the update rate as needed (a higher update rate is usually required in high traffic areas).
- Event—A change in waypoint, vertical rate, lateral deviation or altitude automatically triggers a report.
- Demand—An ATSU can request an update as needed, and this does not affect an existing contract preset rate.

**Aeronautical Telecommunication Network (ATN).** A global internetwork architecture that allows ground, air-ground, and avionic data subnetworks to exchange digital data for the safety of air navigation and for the regular, efficient, and economic operation of air traffic services.

### C

**Controller-Pilot Data Link Communications (CPDLC).** CPDLC is a two-way data-link communication system by which controllers can transmit digital text messages to an aircraft as an alternative to voice communications. Messages from an aircraft to the ATSU may follow a standard format or may be free-text. Messages from a controller normally follow a standard format and usually requiring a response from the flight crew.

**CSP Integrity.** The CSP must pass messages without manipulating the information that is protected by error detection codes that are used by the aircraft system and the ATSU. In particular, the CSP must not reconstitute or regenerate any of the error detection codes.

### F

**Future Air Navigation System (FANS).** FANS is an avionics system which provides direct data link communication between the pilot and the air traffic controller. The communications include air traffic control clearances, pilot requests and position reporting.

### R

**Required Communication Performance (RCP).** A set of requirements for air traffic service provision, aircraft



capability, and operations needed to support performance-based communication within a defined airspace.

**Required Surveillance Performance (RSP).** A statement of the performance requirements for operational surveillance in support of specific ATM functions.

## Acronyms

**Table C-1: Acronyms**

Acronym	Meaning
ACARS	Aircraft Communications Addressing and Reporting System
ADS-C	Automatic Dependent Surveillance-Contract
AIM	Aeronautical Information Manual
AFM	Airplane Flight Manual
ATN	Aeronautical Telecommunication Network
ATS	Air Traffic Service
ATSU	Air Traffic Service Unit
CPDLC	Controller-Pilot Data Link Communication
CRA	Central Reporting Agency
CSP	Communication Service Provider
CVFDR	Cockpit Voice and Flight Data Recorder
CVR	Cockpit Voice Recorder
DLMA	Data Link Monitoring Agency
EFB	Electronic Flight Bag
FANS	Future Air Navigation System
HF	High Frequency
HFDL	High Frequency Data Link
ICAO	International Civil Aviation Organization
IOM	International Operations Manual
INTEROP	Interoperability Requirements Standards
LOA	Letter of Authorization
MEL	Minimum Equipment List
MMEL	Master Minimum Equipment List
MSpec	Management Specification
MTSAT	Multifunctional Transport Satellite
OEM	Original Equipment Manufacturer.
OM	Operations Manual
OpSpec	Operation Specification
PAI	Principal Avionics Inspector
PBCS	Performance-based Communication and Surveillance
PI	Principal Inspector
POI	Principal Operations Inspector
PMI	Principal Maintenance Inspector



Acronym	Meaning
RCP	Required Communication Performance
RSP	Required Surveillance Performance
SATCOM	Satellite Communication
SBD	Short Burst Data
SELCAL	Selective-Calling Radio System
SOC	Statement of Compliance
SSP	Satellite Service Provider
VDL	VHF Data Link
VDLM2	VDL Mode 2
VHF	Very High Frequency