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Agenda Item 3: Aeronautical Fixed Service

**DEVELOPMENT OF THE ICAO REGISTER OF AMHS
MANAGEMENT DOMAINS AND ADDRESSING INFORMATION**

(Presented by the Secretariat)

SUMMARY

This paper presents the current status of the development of the ICAO Register of AMHS management domains and addressing information. It includes the responses from States on State letter SP 54/1-03/39 received prior to 14 October 2003. Working Group N of the Aeronautical Communications Panel is coordinating the final version of this Register; completion is foreseen later this year. The CNS/MET subgroup is invited to review the attached draft Register and to provide comments, as necessary.

1. Introduction

1.1 To facilitate the orderly, systematic and worldwide implementation of the AMHS, which is to replace ageing AFTN and CIDIN, ICAO is in the process of establishing registers for management domains (MDs) and addressing schemes.

1.2 The ICAO Secretary General sent in May 2003 a State Letter referenced SP 54/1-03/39 concerning the establishment of an ICAO register for addresses and management domain identifiers used in the air traffic services (ATS) message handling system (AMHS). The letter requested States to complete and return the pro formas attached to the letter for the purposes of PRMD-name registration and declaration of addressing schemes.

1.3 This working paper provides a summary of the information sent by States in response to the above mentioned State Letter, for responses received until 14th October 2003.

2. Background

2.1 Structure of the ICAO Register of AMHS MDs and Addressing information

2.1.1 The Register will maintain a list of all Management Domains contributing to the AMHS, and of the MD identifiers allocated to each ICAO Contracting State, or ATSO operating under the aegis of ICAO, for the implementation of an AMHS Management Domain.

In practice, the Register is composed of a set of tables:

- heading and explanatory pages, followed by the Register itself;
- a general table called “Table of PRMDs and Addressing Schemes Used”, which provides the MD names and addressing schemes selected for each AMHS MD;

- a set of detailed tables, one for each State or Organization having declared the use of the (Common AMHS Addressing Scheme) CAAS addressing scheme. The name of each detailed table is constructed by concatenation of the word “Table” with the relevant PRMD-name.

2.2 PRMD-name registration

2.2.1 A default PRMD-name value has been reserved for each State in the Draft ICAO Register of AMHS MDs, following the provisions of ICAO Document 9705. This default value is based on the Nationality Letters defined for each State in ICAO Document 7910.

2.2.2 The Draft Register was attached to the State Letter. It was already populated with default values, and for a few States/Organizations, with “pre-declared” values resulting from earlier AMHS studies such as the SPACE project¹.

2.2.3 States had the choice, either to confirm use of the default value, or to propose another PRMD-name identifier. The ICAO Secretariat would then confirm the adoption of the proposed name, or alternatively advise the State if the proposed identifier were improper or not unique.

2.3 Declaration of AMHS addressing schemes

2.3.1 States had the choice to select either the Common AMHS Addressing Scheme (CAAS), or to the XF-addressing scheme, both being defined in Doc 9705.

2.3.2 In the pro forma CAAS was recommended, and XF was considered as the default value in case of no reply by the State. States selecting CAAS had to provide a detailed addressing information associating a group of location indicators to an “organization-name” value.

3. Summary of responses

3.1 Overall number and general status of responses

3.1.1 55 responses were received by the ICAO Secretariat, for 54 States and Organizations. China provided two responses, one for China (Hong-Kong, nationality letters VH) and one for China (nationality letters ZB, ZG, ZH, ZL, ZP, ZS, ZU, ZW, ZY).

3.1.2 The detailed list of responding States is provided in Appendix A.

Among these, three States replied stating that they would provide information at a later opportunity (Colombia, Kenya and the United Kingdom). One of them nevertheless confirmed the default PRMD-name (Colombia).

3.1.3 Two States replied stating that they had no objection or no input (Pakistan, Philippines).

3.1.4 Four States provided apparently incomplete responses (Belgium, Cameroon, Cyprus, Panama).

¹ The SPACE project (“Study and Planning of AMHS Communications in Europe”) was performed in the European Union “Trans-European Networks – transport” framework by a consortium composed of Aena, DFS, Eurocontrol, NATS and STNA. SPACE outcomes have been reported to the former ATNP and ACP working structures.

3.2 Affected entries in the Register

3.2.1 The remaining 45 States and Organizations replied with respect to 79 entries in the Register, i.e. 79 nationality letter pairs or designators.

3.2.2 Among these four entries were new and previously missing in the Table (EUCB, EUCH, Mayotte, French Southern and Antarctic Lands).

3.2.3 States and Organizations that provided responses for multiple entries in the Register are listed in the Table below.

Name of State or Organization	Number of multiple entries	Nationality Letters / Designators
China and Hong Kong (China)	10	VH, ZB, ZG, ZH, ZL, ZP, ZS, ZU, ZW, ZY
Eurocontrol	4	EBBD, EUCB, EUCH, LFPYZMF
France	9	AF, FMCZ, FME*, LF, NL, NT, NW, SO, TF
Germany	2	ED, ET
Malaysia	2	WB, WM
Russia	11	UE, UH, UI, UL, UMKK, UN, UO, UR, US, UU, UW
Spain	3	GC, GE, LE

3.3 PRMD-names

3.3.1 The responses provided a set of 58 distinct PRMD-name values, thereby explicitly defining 58 AMHS MDs¹.

3.3.2 Among these, the vast majority (46 names) has retained the default PRMD-name value, making use of the relevant Nationality Letters. The responses from the two States saying that they had no objection (Pakistan, Philippines) may also be considered as endorsing the default PRMD-name value, summing up to an overall number of 48 AMHS MDs have responded that they will use the default PRMD-name value consisting of their Nationality Letters

3.3.3 12 PRMD-name values different from the Nationality Letters of the considered States have been defined. It may be noted that most of these (10 out of 12) are located in the ICAO EUR Region.

3.4 AMHS Addressing Schemes

3.4.1 Among the 58 (or 60) above mentioned AMHS MDs, 23 domains replied that they will operate with the recommended CAAS scheme. This may be further analyzed as follows:

9 States/Organizations replied with CAAS - Multiple Organisation-name Values (Argentina, Bahrain, Brazil, Eurocontrol, France, Germany, Portugal, Russia, Spain;

11 States replied with CAAS - Single Organisation-name Value (Austria, Croatia, Cuba, Cyprus, Egypt, Greece, Hong Kong (China), Jordan, Mexico, Netherlands, Switzerland);

¹ However it should be noted that this does not allow to make any assumption about the date at which these MDs will actually start operational AMHS service

2 States replied with CAAS and organisation-name values which could be difficult to validate (Maldives, Tunisia);

Additionally one State (Cameroon) selected CAAS but did not provide a detailed table. Therefore its response could not be processed.

The remaining 35 (or 37) AMHS MDs will operate with the default XF addressing scheme.

3.5 Processing of received information

3.5.1 The information received from States and reported above has been input in the Register, thereby updating where appropriate the default or pre-determined values previously contained in the Register.

3.5.2 The information was input in three separate types of action:

Update of the general table “Table of PRMDs and Addressing Schemes Used”, for each received response, including also incomplete responses. Comments were inserted to highlight specific cases;

Creation of a detailed table for all States/Organizations declaring for the first time their use of CAAS;

Update (when needed) of the detailed tables for States/Organizations having pre-declared use of CAAS.

3.5.3 The updated general table “Table of PRMDs and Addressing Schemes Used” is provided as Appendix B to this paper. The updated information is identified by the use of bold characters. Default and pre-declared values have been left in normal font characters.

4. Future work

4.1 The information provided above will be subject to changes in the future:

Additional States may provide AMHS MD and addressing information for registration by ICAO, instead of using default values,

States having declared use of XF addressing scheme may decide to migrate to CAAS,

CAAS tables may be subject to changes,

Etc.

4.2 The goal of the Register is also to make the registered information available to all ICAO Member States and Organizations, thanks to appropriate distribution and publication methods. This is similar to the status of Document 7910 (Location Indicators) which is periodically updated and published by ICAO, while an electronic version is also available.

4.3 Both of these tasks need to be handled centrally by the ICAO Secretariat. For this purpose, procedures need to be developed, to facilitate the Secretariat’s role of managing the ICAO Register of AMHS MDs and Addressing Information. ACP Working Group N WGN is developing these procedures, which will contribute to the smooth and efficient implementation of AMHS world wide.

5. Action by the Meeting

5.1 The CNS/MET subgroup is invited to note the information provided and to provide any comment, either on the content of the draft register as attached and the procedures, to be developed for the management, update and publication of this Register information.

Attachment to CNS/MET SG/8-IP/23**EXPLANATORY NOTES ON AMHS
MANAGEMENT DOMAINS AND ADDRESSING SCHEMES****1. Introduction**

1.1 Air traffic services (ATS) message handling system (AMHS)¹ is the ground portion of the aeronautical telecommunication network (ATN) which has been standardized for ICAO to enable global and seamless exchange of aeronautical messages over various similar or dissimilar subnetworks. Standards and Recommended Practices (SARPs) for ATN are contained in Annex 10, Volume III, Part I, Chapter 3. Those SARPs are supplemented by detailed technical specifications contained in the Manual of Technical Provisions for the Aeronautical Telecommunication Network (ATN) (Doc 9705) and guidance material contained in the Comprehensive Aeronautical Telecommunication Network (ATN) Manual (Doc 9739). To facilitate the orderly, systematic and worldwide implementation of the AMHS, which is to replace ageing aeronautical fixed telecommunication network (AFTN) and common ICAO data interchange network (CIDIN), ICAO is in the process of establishing registers for Management Domain² (MD) and addressing schemes.

2. Register of AMHS MD identifiers

2.1 The goal of this register is to facilitate the establishment of a uniform and global scheme for Contracting States and Air Traffic Service Organizations (ATSOs) to operate under the ICAO® Administrative Management Domain (ADMD) name that has been registered at International Telecommunications Union - Telecom Standards (ITU-T) for ICAO as an international organization.

2.2 This register will maintain a list of all Management Domains contributing to the AMHS, and of the MD identifiers allocated to each ICAO Contracting State, or ATSO operating under the aegis of ICAO, for the implementation of an AMHS Management Domain. The register will include an entry for each State or ATSO and will be updated and published by ICAO as necessary.

2.3 The allocation of an MD identifier is a preliminary registration that does not imply an immediate implementation of an AMHS MD. The MD identifier takes the form of a Private Management Domain (PRMD) name and needs to be unique in the ICAO ADMD.

2.4 Following the provisions of the Manual of Technical Provisions for the Aeronautical Telecommunication Network (ATN) (Doc 9705), a PRMD name has been reserved for each State and is referred to as nationality letters.

2.5 The PRMD name can be modified upon request, using the pro forma shown in Attachment B. However, such a proposed value should comply with the provisions contained in the Doc 9705, Third Edition. The ICAO Secretariat will advise, if the proposed identifier is improper or not unique.

¹ **ATS message handling system (AMHS).** The set of computing and communication resources implemented by ATS organizations to provide the ATS message service.

² **Management domain (MD).** Resources that for systems management purposes are represented by managed objects. A management domain possesses at least the following quantities: a name that uniquely identifies that management domain, identification of a collection of managed objects that are members of the domain and identification of any inter-domain relationships between this domain and other domains.

2.6 The full AMHS MD identifier for the AMHS MD operated in a State will be:

C = XX / A = ICAO / P = [nationality letters]

or

C = XX / A = ICAO / P = [proposed new identifier (if valid)]

2.7 This MD identifier is typically associated with the nationality letters currently allocated to each State, as per the Location Indicators (Doc 7910).

3. Declaration of AMHS addressing schemes

3.1 The ICAO Register of AMHS MDs also includes the declaration of the addressing scheme under which AMHS user addresses will be allocated in each AMHS MD. It will therefore be highly desirable for all States to declare the addressing scheme selected for their AMHS MDs.

3.2 The addressing scheme called the ACommon AMHS Addressing Scheme® (CAAS) and specified in Doc 9705, Third Edition, is the most commonly selected one. It is desirable that such a scheme could be established at an early stage of AMHS planning and implementation activities.

3.3 This addressing scheme allows to group the (existing or future) AMHS user locations in each State, identified by the respective ICAO 4-character location indicator, (specified in Doc 7910), into geographical units or more generally into groups of locations using the same (existing or future) ATS Message Server. Guidance and examples on how to define such groups of locations may be found in the Comprehensive Aeronautical Telecommunication Network (ATN) Manual (Doc 9739).

3.4 The detailed addressing information associating a group of location indicators to an Aorganization-name® should be declared for publication in conjunction with the ICAO Register of AMHS Management Domains. The second pro forma contained in Attachment B should be used for this purpose.

3.5 In case such an addressing scheme has not been defined, perhaps due to lack of any near-term AMHS implementation plan in certain States, the AXF Addressing Scheme® shown in Doc 9705 will be used as the default addressing scheme. This will allow interoperability between all existing AFTN (or CIDIN) COM Centres and new AMHS systems.

4 Explanation of AMHS addressing schemes

4.1 XF-scheme

4.1.1 The XF scheme is the default addressing scheme which is to be used by for States which are not operating AMHS and/or have not declared their use of the CAAS. The XF scheme is briefly described in the following table.

Attribute	Attribute value	Remark
Country-name (C)	C = "XX", as already obtained by ICAO from ITU-T	
ADMD-name (A)	A = "ICAO", as already registered by ICAO at ITU-T	
PRMD-name (P)	P = a name to be defined by each State/ATSO and registered by ICAO. Such a name will identify a State, an Organization, or an organization within a State.	In the absence of such a name being registered by the State at ICAO, a default value will be used to ensure that the attribute value is always defined. This default value is the ICAO Nationality letters, as may be found in Doc 7910. In cases where the Nationality letters are ambiguous, a designator made of four characters replaces the Nationality letters.
Organization-name (O)	O = "AFTN", taking the 4-character value AAFTN@ encoded as a Printable String.	
Organizational-unit-name (OU1)	OU1 = the 8-letter AF-address (or AFTN indicator) of the considered user.	

Example: XF AMHS Address for a Tower located in Erfurt (Germany, ED)

/C=XX/A=ICAO/P=ED/O=AFTN/OU=EDDEZTZX

4.2 The Common AMHS Addressing Scheme (CAAS)

4.2.1 The Common AMHS Addressing Scheme (CAAS) is defined in the Third Edition of Doc 9705. It is briefly described in the following table.

Attribute	Attribute value	Remark
Country-name (C)	C = "XX", as already obtained by ICAO from ITU-T	
ADMD-name (A)	A = "ICAO", as already registered by ICAO at ITU-T	
PRMD-name (P)	P = a name to be defined by each State/ATSO and registered by ICAO. Such a name will identify a State, an Organization, or an organization within a State.	In the absence of such a name being registered by the State at ICAO, a default value will be used to ensure that the attribute value is always defined. This default value is the ICAO Nationality

		letters, as may be found in Doc 7910. In cases where the Nationality letters are ambiguous, a designator made of four characters replaces the Nationality letters.
Organization-name (O)	O = a value corresponding to local/national geographical information, e.g. a region or a geographical area with in a State where the user is located.	The syntax and value are to be defined by the considered State/ATSO. The table associating such an organization-name to each ICAO location indicator (4 characters) is registered and published by ICAO.
Organizational-unit-name (OU1)	OU1 = the ICAO location indicator (4 characters) of the considered user;	
Common-name (CN)	Either, CN = the 8-letter AF-address (or AFTN indicator) of the considered user, irrespective of whether it is a direct or indirect user. Or, CN = the 5-letter CIDIN Ax address of the user in case of a CIDIN user being an indirect AMHS user.	

Example: MF AMHS Address of Albi's ARO (belongs to Toulouse (France LF) region):

/C=XX/A=ICAO/P=France/O=LFBO/OU=LFCI/CN=LFCIZPZX

4.2.2 The relation between the different address objects and the 4-letter location indicator and/or 8-letter AFTN Address is defined by the States concerned.

5. Structure of the ICAO Register of AMHS Management Domains (MD's) and Addressing Information

5.1 The Register contains a list of all AMHS Address Specifications contributing to the AMHS, including the PRMD identifiers allocated to each ICAO Contracting State, or ATSO operating under the aegis of ICAO and the Addressing Scheme used.

The Register contains the following information:

- a. a general table called "Table of PRMDs and Addressing Schemes Used", which provides the MD names and addressing schemes selected for each AMHS MD;
- b. a set of detailed tables, one for each State or Organization having declared the use of the CAAS addressing scheme. The name of each detailed table is constructed by concatenation of the word "Table" with the relevant PRMD-name. Currently, these tables are under development in Working Group N of the Aeronautical Communications Panel (ACP)

5.2 The Table of PRMDs and Addressing Schemes Used contains the following columns:

STATE:

Name

The name of the State is as per Doc 7910.

Nationality letters or designator

The nationality letters or designator are taken from index to nationality letter for location indicators, as contained in the ICAO list of location indicators (Doc 7910). There is at least one entry per State in the Register. However, in some cases more than one entry for a State has been included, where more than one set of nationality letters are available in Doc 7910.

AMHS ADDRESS SPECIFICATION:

The columns Country name attribute, ADMD name, PRMD name and Addressing scheme include the full AMHS address

Country name attribute

The country name attribute for all countries is XX, as has been coordinated with the ITU Telecommunication Bureau (ITU-T)

ADMD name attribute

The ICAO Administrative Management Domain (ADMD) to be used in all AMHS addresses is ICAO, as has been coordinated with the ITU Telecommunication Bureau (ITU-T) for ICAO as an international organization.

PRMD name attribute

The Private Management Domain (PRMD) to be used is a name being registered by the State with ICAO. Where no specific information is available, the ICAO nationality letters as per Doc 7910 have been indicated. To reduce the size of the general table, a “wild card”¹ single character consisting of an asterisk (“*”) is used in the column nationality letters or designator where appropriate (e.g. United States are identified by the pair of Nationality Letters K*, instead of listing the 24 character pairs from KA to KZ actually in use).

In case the addressing scheme is XF, in cases where the two nationality letters are ambiguous, a designator made of [three or four] [up to seven] characters may be used

In case the addressing scheme is CAAS, the PRMD name is a name to be defined by each State and registered with ICAO. Such a name can identify a State, or Air Traffic Services Organization (ATSO) within a State.

States have the option to either confirm use of the default value or to propose another PRMD-name identifier. The ICAO Secretariat would then confirm the adoption of the

¹ A “wild card” character (*) is a character that can be replaced by any alphabetical character.

proposed name, or alternatively advise the State if the proposed identifier could cause confusion.

Addressing scheme (re. Doc 9705, paragraph 3.1.2.1.5.1.4.2)

The identified addressing scheme can either be XF or CAAS. Where no information is available, the XF scheme has been included in the Register.

The XF (or translated) address (re. Doc 9705, paragraph 3.1.2.1.5.1.4.2) of a direct or indirect AMHS user contains the above mentioned country name (XX), the ICAO administrative management domain (ICAO), the private management domain as contained in the Register, followed by the organization name attribute (AFTN) and the organizational unit name, which takes the 8-character value of the AF (AFTN-form) address, taken from Doc 7910. (See also 4.1 above)

Note 1: The organization name attribute and organizational unit name are not included in the register)

The Common AMHS addressing scheme (CAAS) (re. Doc 9705, paragraph 3.1.2.1.5.1.4.3) , contains the MF-address (Message Handling System (MHS)-form address)¹ of a direct or indirect user complying with the CAAS and contains the above mentioned country name (XX), the ICAO administrative management domain (ICAO), the private management domain as contained in the Register, followed by the organization name attribute, to be defined by the State, the organizational unit name (the 4-letter ICAO location indicator) and the common name (CN). The CN is either the 8-letter AF address (or AFTN indicator) or the 5-letter CIDIN Ax address. (See also 4.2 above).

Note 2: The organization name attribute, organizational unit name and the common name are not included in the register)

5.3 Detailed tables, containing the Organization name (O) and the Organizational unit name (OU1) [and the Common name (CN)] are currently being developed.

Based upon the assumptions above and the information received by States, the following Register has been developed.

¹ **Message handling system (MHS)-form address.** An instance of the AMHS address form which is used to locate a direct or indirect AMHS user in the AMHS address space.

Table of PRMDs and Addressing Schemes used

(listed in alphabetical order by Nationality Letters)

(update including information received until 14th October 2003)

State		AMHS Address Specification					
Name	Nationality Letters or Designator	Country-name attribute	ADMD-name attribute	PRMD-name attribute	Addressing scheme	ATN Directory naming-context	Comments
French Southern and Antarctic Lands (France)	AF	XX	ICAO	AF	XF		
Solomon Islands	AG	XX	ICAO	AG	XF		
Nauru	AN	XX	ICAO	AN	XF		
Papua New Guinea	AY	XX	ICAO	AY	XF		
Greenland (Denmark)	BG	XX	ICAO	BG	XF		
Iceland	BI	XX	ICAO	BI	XF		
Canada	C*	XX	ICAO	C	XF		
Algeria	DA	XX	ICAO	DA	XF		
Benin	DB	XX	ICAO	DB	XF		
Burkina Faso	DF	XX	ICAO	DF	XF		
Ghana	DG	XX	ICAO	DG	XF		
Côte d'Ivoire	DI	XX	ICAO	DI	XF		
Nigeria	DN	XX	ICAO	DN	XF		
Niger	DR	XX	ICAO	DR	XF		
Tunisia	DT	XX	ICAO	DT	CAAS		see Table Tunisia
Togo	DX	XX	ICAO	DX	XF		
Belgium	EB	XX	ICAO	BELGIUM	XF		incomplete reply to State Letter
Eurocontrol	EBBD	XX	ICAO	EUROCONTROL-CFMU	CAAS		see Table Eurocontrol-CFMU
Germany	ED	XX	ICAO	GERMANY	CAAS		see Table Germany
Estonia	EE	XX	ICAO	EE	XF		
Finland	EF	XX	ICAO	EF	XF		
United Kingdom	EG	XX	ICAO	EG	CAAS		will provide information later
Netherlands	EH	XX	ICAO	EH	CAAS		
Ireland	EI	XX	ICAO	EI	XF		
Denmark	EK	XX	ICAO	EK	XF		
Luxembourg	EL	XX	ICAO	EL	XF		
Norway	EN	XX	ICAO	EN	XF		
Poland	EP	XX	ICAO	EP	XF		
Sweden	ES	XX	ICAO	ES	XF		
Germany	ET	XX	ICAO	GERMANY	CAAS		see Table Germany
Europe	EU	XX	ICAO	EU	XF		
Eurocontrol	EUCB	XX	ICAO	EUROCONTROL-CFMU	CAAS		see Table Eurocontrol-CFMU
Eurocontrol	EUCH	XX	ICAO	EUROCONTROL-CFMU	CAAS		see Table Eurocontrol-CFMU
Latvia	EV	XX	ICAO	EV	XF		
Lithuania	EY	XX	ICAO	EY	XF		
South Africa	FA	XX	ICAO	FA	XF		
Botswana	FB	XX	ICAO	FB	XF		
Congo	FC	XX	ICAO	FC	XF		
Swaziland	FD	XX	ICAO	FD	XF		
Central African Republic	FE	XX	ICAO	FE	XF		
Equatorial Guinea	FG	XX	ICAO	FG	XF		
Ascension I. (U.K.)	FH	XX	ICAO	FH	XF		
Mauritius	FI	XX	ICAO	FI	XF		
British Indian Ocean Territory	FJ	XX	ICAO	FJ	XF		
Cameroon	FK	XX	ICAO	FK	CAAS		incomplete CAAS information
Zambia	FL	XX	ICAO	FL	XF		
Comores	FMC*	XX	ICAO	FMC	XF		
Mayotte (France)	FMCZ	XX	ICAO	FMCZ	XF		
Reunion (France)	FME*	XX	ICAO	FME	XF		
Madagascar	FM	XX	ICAO	FM	XF		
Angola	FN	XX	ICAO	FN	XF		
Gabon	FO	XX	ICAO	FO	XF		
Sao Tome and Principe	FP	XX	ICAO	FP	XF		
Mozambique	FQ	XX	ICAO	FQ	XF		
Seychelles	FS	XX	ICAO	FS	XF		
Chad	FT	XX	ICAO	FT	XF		

State		AMHS Address Specification					
Name	Nationality Letters or Designator	Country-name attribute	ADMD-name attribute	PRMD-name attribute	Addressing scheme	ATN Directory naming-context	Comments
Zimbabwe	FV	XX	ICAO	FV	XF		
Malawi	FW	XX	ICAO	FW	XF		
Lesotho	FX	XX	ICAO	FX	XF		
Namibia	FY	XX	ICAO	FY	XF		
Dem. Republic of the Congo	FZ	XX	ICAO	FZ	XF		
Mali	GA	XX	ICAO	GA	XF		
Gambia	GB	XX	ICAO	GB	XF		
Canary Islands (Spain)	GC	XX	ICAO	AENA	CAAS		see Table Aena
Spain	GE	XX	ICAO	AENA	CAAS		see Table Aena
Sierra Leone	GF	XX	ICAO	GF	XF		
Guinee-Bissau	GG	XX	ICAO	GG	XF		
Liberia	GL	XX	ICAO	GL	XF		
Morocco	GM	XX	ICAO	GM	XF		
Sénégal	GO	XX	ICAO	GO	XF		
Mauritanie	GQ	XX	ICAO	GQ	XF		
Western Sahara	GS	XX	ICAO	GS	XF		
Guinea	GU	XX	ICAO	GU	XF		
Cape Verde	GV	XX	ICAO	GV	XF		
Ethiopia	HA	XX	ICAO	HA	XF		
Burundi	HB	XX	ICAO	HB	XF		
Somalia	HC	XX	ICAO	HC	XF		
Djibouti	HD	XX	ICAO	HD	XF		
Egypt	HE	XX	ICAO	HE	CAAS		
Eritrea	HH	XX	ICAO	HH	XF		
Kenya	HK	XX	ICAO	HK	XF		will provide information later
Libyan Arab Jamahiriya	HL	XX	ICAO	HL	XF		
Rwanda	HR	XX	ICAO	HR	XF		
Sudan	HS	XX	ICAO	HS	XF		
United Rep. of Tanzania	HT	XX	ICAO	HT	XF		
Uganda	HU	XX	ICAO	HU	XF		
United States	K *	XX	ICAO	K	XF		
Albania	LA	XX	ICAO	LA	XF		
Bulgaria	LB	XX	ICAO	LB	XF		
Cyprus	LC	XX	ICAO	LC	CAAS		incomplete reply to State Letter
Croatia	LD	XX	ICAO	LD	CAAS		see Table LD
Spain	LE	XX	ICAO	AENA	CAAS		see Table Aena
France	LF	XX	ICAO	FRANCE	CAAS		see Table France
Eurocontrol	LFPYZMF	XX	ICAO	EUROCONTROL-CFMU	CAAS		see Table Eurocontrol-CFMU
Greece	LG	XX	ICAO	GREECE	CAAS		see Table Greece
Hungary	LH	XX	ICAO	LH	XF		
Italy	LI	XX	ICAO	LI	XF		
Slovenia	LJ	XX	ICAO	LJ	XF		
Czech Republic	LK	XX	ICAO	LK	XF		
Israel	LL	XX	ICAO	LL	XF		
Malta	LM	XX	ICAO	LM	XF		
Monaco	LN	XX	ICAO	LN	XF		
Austria	LO	XX	ICAO	AUSTRIA	CAAS		see Table Austria
Portugal (Madeira & Açores)	LP	XX	ICAO	PORTUGAL	CAAS		see Table Portugal
Bosnia-Herzegovina	LQ	XX	ICAO	LQ	XF		
Romania	LR	XX	ICAO	LR	XF		
Switzerland	LS	XX	ICAO	SUISSE	CAAS		see Table Suisse
Turkey	LT	XX	ICAO	LT	XF		
Republic of Moldova	LU	XX	ICAO	LU	XF		
Areas Under the Control of the Palestinian Authority	LV	XX	ICAO	LV	XF		
The former Yugoslav Republic of Macedonia	LW	XX	ICAO	LW	XF		
Gibraltar (United Kingdom)	LX	XX	ICAO	LX	XF		
Federal Republic of Yugoslavia	LY	XX	ICAO	LY	XF		
Slovakia	LZ	XX	ICAO	LZ	XF		
Turks and Caicos Islands (U.K.)	MB	XX	ICAO	MB	XF		

State		AMHS Address Specification					
Name	Nationality Letters or Designator	Country-name attribute	ADMD-name attribute	PRMD-name attribute	Addressing scheme	ATN Directory naming-context	Comments
Dominican Republic	MD	XX	ICAO	MD	XF		
Guatemala	MG	XX	ICAO	MG	XF		
Honduras	MH	XX	ICAO	MH	XF		
Jamaica	MK	XX	ICAO	MK	XF		
Mexico	MM	XX	ICAO	MM	CAAS		
Nicaragua	MN	XX	ICAO	MN	XF		
Panama	MP	XX	ICAO	MP	XF		incomplete reply to State Letter
Costa Rica	MR	XX	ICAO	MR	XF		
El Salvador	MS	XX	ICAO	MS	XF		
Haiti	MT	XX	ICAO	MT	XF		
Cuba	MU	XX	ICAO	MU	CAAS		
Cayman Islands (U.K.)	MW	XX	ICAO	MW	XF		
Bahamas	MY	XX	ICAO	MY	XF		
Belize	MZ	XX	ICAO	MZ	XF		
Cook Islands	NC	XX	ICAO	NC	XF		
Fiji	NF	XX	ICAO	NF	XF		
Tonga	NFT*	XX	ICAO	NFT	XF		
Kiribati	NG	XX	ICAO	NG	XF		
Tuvalu	NGF*	XX	ICAO	NGF	XF		
Niue Island (New Zealand)	NI	XX	ICAO	NI	XF		
Iles Wallis and Futuna (France)	NL	XX	ICAO	NL	XF		
American Samoa	NST*	XX	ICAO	NST	XF		
Samoa	NS	XX	ICAO	NS	XF		
French Polynesia	NT	XX	ICAO	NT	XF		
Vanuatu	NV	XX	ICAO	NV	XF		
New Caledonia (France)	NW	XX	ICAO	NW	XF		
New Zealand	NZ	XX	ICAO	NZ	XF		
Afghanistan	OA	XX	ICAO	OA	XF		
Bahrain	OB	XX	ICAO	OB	CAAS		See Table OB
Saudi Arabia	OE	XX	ICAO	OE	XF		
Iran (Islamic Rep of)	OI	XX	ICAO	OI	XF		
Jordan	OJ	XX	ICAO	OJ	CAAS		See Table OJ
Kuwait	OK	XX	ICAO	OK	XF		
Lebanon	OL	XX	ICAO	OL	XF		
United Arab Emirates	OM	XX	ICAO	OM	XF		
Oman	OO	XX	ICAO	OO	XF		
Pakistan	OP	XX	ICAO	OP	XF		replied "nil input to offer"
Iraq	OR	XX	ICAO	OR	XF		
Syrian Arab Rep.	OS	XX	ICAO	OS	XF		
Qatar	OT	XX	ICAO	OT	XF		
Yemen	OY	XX	ICAO	OY	XF		
Alaska (U.S.)	PA	XX	ICAO	PA	XF		
Alaska (U.S.)	PF	XX	ICAO	PA	XF		
Mariana Islands (U.S.)	PG	XX	ICAO	PG	XF		
Hawai (U.S.)	PH	XX	ICAO	PH	XF		
Johnston Island (U.S.)	PJ	XX	ICAO	PJ	XF		
Marshall Islands (U.S.)	PK	XX	ICAO	PK	XF		
Kiribati	PL	XX	ICAO	PL	XF		
Line Islands (U.S.)	PL	XX	ICAO	PL	XF		
Midway Islands (U.S.)	PM	XX	ICAO	PM	XF		
Alaska (U.S.)	PO	XX	ICAO	PA	XF		
Alaska (U.S.)	PP	XX	ICAO	PA	XF		
Micronesia (Federated States of)	PT	XX	ICAO	PT	XF		
Palau Islands (U.S.)	PTR*	XX	ICAO	PTR	XF		
Wake Island (U.S.)	PW	XX	ICAO	PW	XF		
China	RC	XX	ICAO	RC	XF		
Japan	RJ	XX	ICAO	RJ	XF		
Rep. of Korea	RK	XX	ICAO	RK	XF		
Japan	RO	XX	ICAO	RJ	XF		
Philippines	RP	XX	ICAO	RP	XF		replied "no objection to recom."
Argentina	SA	XX	ICAO	ARGENTINA	CAAS		See Table Argentina

State		AMHS Address Specification					
Name	Nationality Letters or Designator	Country-name attribute	ADMD-name attribute	PRMD-name attribute	Addressing scheme	ATN Directory naming-context	Comments
Brazil	SB	XX	ICAO	SB	CAAS		See Table SB
Chile	SC	XX	ICAO	SC	XF		
Ecuador	SE	XX	ICAO	SE	XF		
Falklands Islands (U.K.)	SF	XX	ICAO	SF	XF		
Paraguay	SG	XX	ICAO	SG	XF		
Colombia	SK	XX	ICAO	SK	XF		will provide information later
Bolivia	SL	XX	ICAO	SL	XF		
Suriname	SM	XX	ICAO	SM	XF		
French Guyana	SO	XX	ICAO	SO	XF		
Peru	SP	XX	ICAO	SP	XF		
Uruguay	SU	XX	ICAO	SU	XF		
Venezuela	SV	XX	ICAO	SV	XF		
Guyana	SY	XX	ICAO	SY	XF		
Antigua and Barbuda	TA	XX	ICAO	TA	XF		
Barbados	TB	XX	ICAO	TB	XF		
Dominica	TD	XX	ICAO	TD	XF		
French Antilles	TF	XX	ICAO	TF	XF		
Grenada	TG	XX	ICAO	TG	XF		
Virgin Islands (U.S.)	TI	XX	ICAO	TI	XF		
Puerto Rico (U.S.)	TJ	XX	ICAO	TJ	XF		
St. Kitts and Nevis	TK	XX	ICAO	TK	XF		
St. Lucia	TL	XX	ICAO	TL	XF		
Aruba (Netherlands, Kingdom of the)	TNCA	XX	ICAO	TNCA	XF		
Netherlands Antilles	TN	XX	ICAO	TN	XF		
Anguilla I. (U.K.)	TQ	XX	ICAO	TQ	XF		
Montserrat I. (U.K.)	TR	XX	ICAO	TR	XF		
Trinidad and Tobago	TT	XX	ICAO	TT	XF		
Virgin Islands (U.K.)	TU	XX	ICAO	TU	XF		
St. Vincent and the Grenadines	TV	XX	ICAO	TV	XF		
Bermuda (U.K.)	TX	XX	ICAO	TX	XF		
Kazakstan	UA	XX	ICAO	UA	XF		
Kyrgyzstan	UAF*	XX	ICAO	UAF	XF		
Azerbaijan	UB	XX	ICAO	UB	XF		
Russian Federation	UE	XX	ICAO	RUSSIA	CAAS		see Table Russia
Georgia	UG	XX	ICAO	UG	XF		
Armenia	UGE*	XX	ICAO	UGE	XF		
Georgia	UGGG	XX	ICAO	UG	XF		
Armenia	UGGN	XX	ICAO	UGE	XF		
Georgia	UGM*	XX	ICAO	UG	XF		
Georgia	UGS*	XX	ICAO	UG	XF		
Russian Federation	UH	XX	ICAO	RUSSIA	CAAS		see Table Russia
Russian Federation	UI	XX	ICAO	RUSSIA	CAAS		see Table Russia
Ukraine	UK	XX	ICAO	UK	XF		
Russian Federation	UL	XX	ICAO	RUSSIA	CAAS		see Table Russia
Belarus	UM	XX	ICAO	UM	XF		
Russian Federation	UMKK	XX	ICAO	RUSSIA	CAAS		see Table Russia
Russian Federation	UN	XX	ICAO	RUSSIA	CAAS		see Table Russia
Russian Federation	UO	XX	ICAO	RUSSIA	CAAS		see Table Russia
Russian Federation	UR	XX	ICAO	RUSSIA	CAAS		see Table Russia
Russian Federation	US	XX	ICAO	RUSSIA	CAAS		see Table Russia
Tadjikistan	UTD*	XX	ICAO	UTD	XF		
Turkmenistan	UTA*	XX	ICAO	UTA	XF		
Uzbekistan	UT	XX	ICAO	UT	XF		
Russian Federation	UU	XX	ICAO	RUSSIA	CAAS		see Table Russia
Russian Federation	UW	XX	ICAO	RUSSIA	CAAS		see Table Russia
India	VA	XX	ICAO	VA	XF		
Sri Lanka	VC	XX	ICAO	VC	XF		
Cambodia	VD	XX	ICAO	VD	XF		
India	VE	XX	ICAO	VA	XF		
Bangladesh	VG	XX	ICAO	VG	XF		
Hong Kong (China)	VH	XX	ICAO	HONGKONG	CAAS		see Table Hongkong
India	VI	XX	ICAO	VA	XF		

State		AMHS Address Specification					
Name	Nationality Letters or Designator	Country-name attribute	ADMD-name attribute	PRMD-name attribute	Addressing scheme	ATN Directory naming-context	Comments
Lao People's Dem. Rep.	VL	XX	ICAO	VL	XF		
Macau (China)	VM	XX	ICAO	VM	XF		
Nepal	VN	XX	ICAO	VN	XF		
India	VO	XX	ICAO	VA	XF		
Bhutan	VQ	XX	ICAO	VQ	XF		
Maldives	VR	XX	ICAO	VR	CAAS		see Table Maldives
Thailand	VT	XX	ICAO	VT	XF		
Viet Nam	VV	XX	ICAO	VV	XF		
Myanmar	VY	XX	ICAO	VY	XF		
Indonesia	WA	XX	ICAO	WA	XF		
Malaysia	WB	XX	ICAO	WB	XF		
Brunei Darussalam	WBAK	XX	ICAO	WBSB	XF		
Brunei Darussalam	WBSB	XX	ICAO	WBSB	XF		
Indonesia	WI	XX	ICAO	WA	XF		
Malaysia (Peninsular)	WM	XX	ICAO	WM	XF		
East Timor	WP	XX	ICAO	WP	XF		
Indonesia	WR	XX	ICAO	WA	XF		
Singapore	WS	XX	ICAO	WS	XF		
Australia	Y*	XX	ICAO	Y	XF		
China	ZB	XX	ICAO	ZB	XF		
China	ZG	XX	ICAO	ZB	XF		
China	ZH	XX	ICAO	ZB	XF		
Dem. People's Rep. of Korea	ZK	XX	ICAO	ZK	XF		
China	ZL	XX	ICAO	ZB	XF		
Mongolia	ZM	XX	ICAO	ZM	XF		
China	ZP	XX	ICAO	ZB	XF		
China	ZS	XX	ICAO	ZB	XF		
China	ZU	XX	ICAO	ZB	XF		
China	ZW	XX	ICAO	ZB	XF		
China	ZY	XX	ICAO	ZB	XF		

List of States of which the responses are incorporated in the table above:

Argentina	Greece	Saudi Arabia
Austria	Hungary	Slovenia
Azerbaijan	Iran, Islamic Republic of	South Africa
Bahrain	Japan	Spain
Belgium	Jordan	Sweden
Bolivia	Kenya	Switzerland
Brazil	Malaysia	Tunisia
Cameroon	Maldives	Uganda
Chile	Mauritius	United Arab Emirates
China	Mexico	United Kingdom
Colombia	Netherlands	United States
Croatia	New Zealand	Uruguay
Cuba	Nigeria	Eurocontrol
Cyprus	Norway	
Denmark	Pakistan	
Egypt	Panama	
Estonia	Papua New Guinea	
France	Romania	
Germany	Russian Federation	