ATS Messaging Management Centre (AMC)

➢ Overview

❖ (ATS) messaging management centre (AMC) provides off-line network management services mainly to support European air navigation service providers' (ANSPs) ground ATS messaging network and also to coordinate with communication and management centers in other ICAO Regions.

❖ **The goal of the AMC is to :**

- facilitate the transition from CIDIN/AFTN to AMHS, particularly with its routing management function;
- provide new tools in support of AMHS operations, address management functions and user capabilities management that will serve during transition and in the target AMHS network.

➢ The former management situation

- each Centre is operated independently with its own operations staff; there were formerly no formal network management procedures in operation .
- day-to-day operations were based solely on bilateral co-ordination between pairs of neighbouring States;
- network planning was performed by pairs or groups of the States concerned and subject to approval by ICAO Meetings (see next point);
- official network planning was performed in ICAO Regions, with a cycle time of the order of several months or one year;
- matters affecting more than one ICAO Region were co-ordinated between pairs or groups of States concerned; occasionally supra-regional planning meetings were held.

➢ Structure of the ATS Messaging network in AMC

❖ The Management Area

- The geographical area within which the ATS Messaging Management Centre services are offered is primarily focused on the ICAO EUR/NAT Regions. Nevertheless, due to global nature of the ATS Messaging network, the use of AMC functions is required by all States / COM Centres in other ICAO Regions .

- In the AMC, the ATS Messaging network is represented as a set of Management Domains, each of them comprising one or several COM Centres.

- The global ATS Messaging network is represented in the AMC, with a different level of details depending on whether or not the COM Centre / AMHS MD belongs to the Management Area.

➢ Structure of the ATS Messaging network in AMC

❖ COM Centres

1) **<u>Co-operating COM Centres", CCC</u>**

The COM Centres in the EUR/NAT Regions which participate in ATS Messaging management activities are called "Co-operating COM Centres", CCC. The descriptor "Co-operating" is a necessary part of this term because some Centres within the geographical area may choose not to participate in the management procedures defined here.

2) **<u>External COM Centres</u>**

The COM Centres out of the EUR/NAT Regions which participate in ATS Messaging management activities by using the functions allowed to them

AMHS Management Domains

- In the AMHS environment, an AMHS Management Domain represents the whole set of AMHS systems and resources operated by a single organisation. Typically, an AMHS Management Domain corresponds to an ATS Message Server ("AMHS switch"), an AFTN/AMHS Gateway (generally co-located with the CIDIN or AFTN COM Centre), and the ATS Message User Agents that are implemented as interfaces to AMHS direct users.
- The general model for ATS Messaging Management is that of one Management Domain for each State in the Management area, in which the COM Centre includes an ATS Message Server. There can be one or several COM Centres in each AMHS Management Domain, and in the vast majority of cases there is one single COM Centre.
- However, SPACE did also foresee that in some cases, a small number of States might group together, based on bilateral or multilateral discussions, to form a single Management Domain.
- At present, all identified AMHS Management Domains are Private Management Domains (PRMDs) operating under the ICAO Administrative Management Domain (ADMD).

AMC Users

- CCC Operators
- External COM Operators
- Read-Only Users
- Participating COM Centres
- Non-Participating COM Centres

Regional Focal Points :

- As more COM Centres transition to AMHS operations, especially with the implementation of third-party gateways such as SITA, it is important that symmetrical routing is maintained for States outside of EUR.
- As with Participating COM Centres, it may be that some COM Centres do not wish to participate fully in AMC Operations and instead allow their Regional Focal Point to do so for them.
- The Regional Focal Point ideally originates from an ANSP COM Centre within their respective ICAO Region. They are granted the permission of COM Centres in their Region to perform CCC functions and propose routing changes on their behalf to the AMC Operator.
- The Regional Focal Point will be assigned in AMC as an External COM Operator with multiple Com Centres.

Detailed Access Rights For Each User Category

- It should be noted that a distinct functional subset (and associated AMC user menu) is defined for each user category accessing some functions, as described in the above table. For example, External COM Operators do not have access to all AMC functions.

- The accurate list of functions that can be accessed by each user category is provided as Appendix B of EUR Doc 021 - ATS Messaging Management Manual, together with the description of the access rights model used for their specification. Any modification to this list shall be approved by AST TF or an AST TF working group prior to the opening of AMC services to its users.

➢ How to become an AMC user ?

1) All AMC users are required use accreditation procedures in the ATS Messaging Management Manual defined in section 2.5.2 , except that MID External COM Operators have to use special accreditation procedures developed by MIDAMC team and endorsed by MID regional CNS officer.
2) Follow AMC training.

❖ Each MID COM Centre shall have:
   1) One External COM Operator
   2) One backup associated to its COM Centre.

➢ Use of Data Areas

Information is structured in three data areas:

1- the Background Data Area

2- the Pre-Operational Data Area

3- the Operational Data Area

➢ The Background Data Area

- ✓ Data gets manipulated in the Background Area. The AMC Operator can manipulate it all; each CCC Operator / External COM Operator can read and manipulate only his "own" data. Regional Focal Point can manipulate data of multiple COM centers within the assigned region on their behalf.
- ✓ The database system prevents records from being updated simultaneously by more than one user.

purpose	working area (CCC, External COM Centre and AMC Operators)
access	restricted to own COM Centre (except for AMC Operator)
AMC Operator actions	validating Inventory, work on Routing Tables
functions	data entry and validation

The Pre-Operational Data Area

- the Pre-Operational Area is a set of data being prepared by the AMC Operator which can then be transferred by him as one consistent set to the Operational Data Area. This is the only way in which the operational data area gets changed. The data in the Pre-Operational Area is accessible by CCC Operators as data in preparation for becoming operational. It is managed by the AMC Operator but is not manipulated by him there. Instead, he will copy validated data from the Background Data Area (see below) to the Pre-Operational Data Area;

purpose	represent planned operational state
access	read (all), routing acknowledgement (restricted)
AMC Operator actions	transfers COM centre information, propose Routing Tables
functions	retrieval, all functions, routing acknowledgement

The Operational Data Area

- ✓ the Operational Area contains the "published" data. Everything in it can be read by all users and modified by none;

purpose	represent operational state
access	read (all)
AMC Operator actions	copied as whole from Pre-operational
functions	retrieval, all functions

➢ The AMC phases

- **There are 5 AMC phases in an AIRAC cycle as follows:**

1. Data Entry Phase
Starts day 1, suspended day 7, resumes day 15, ends day 28

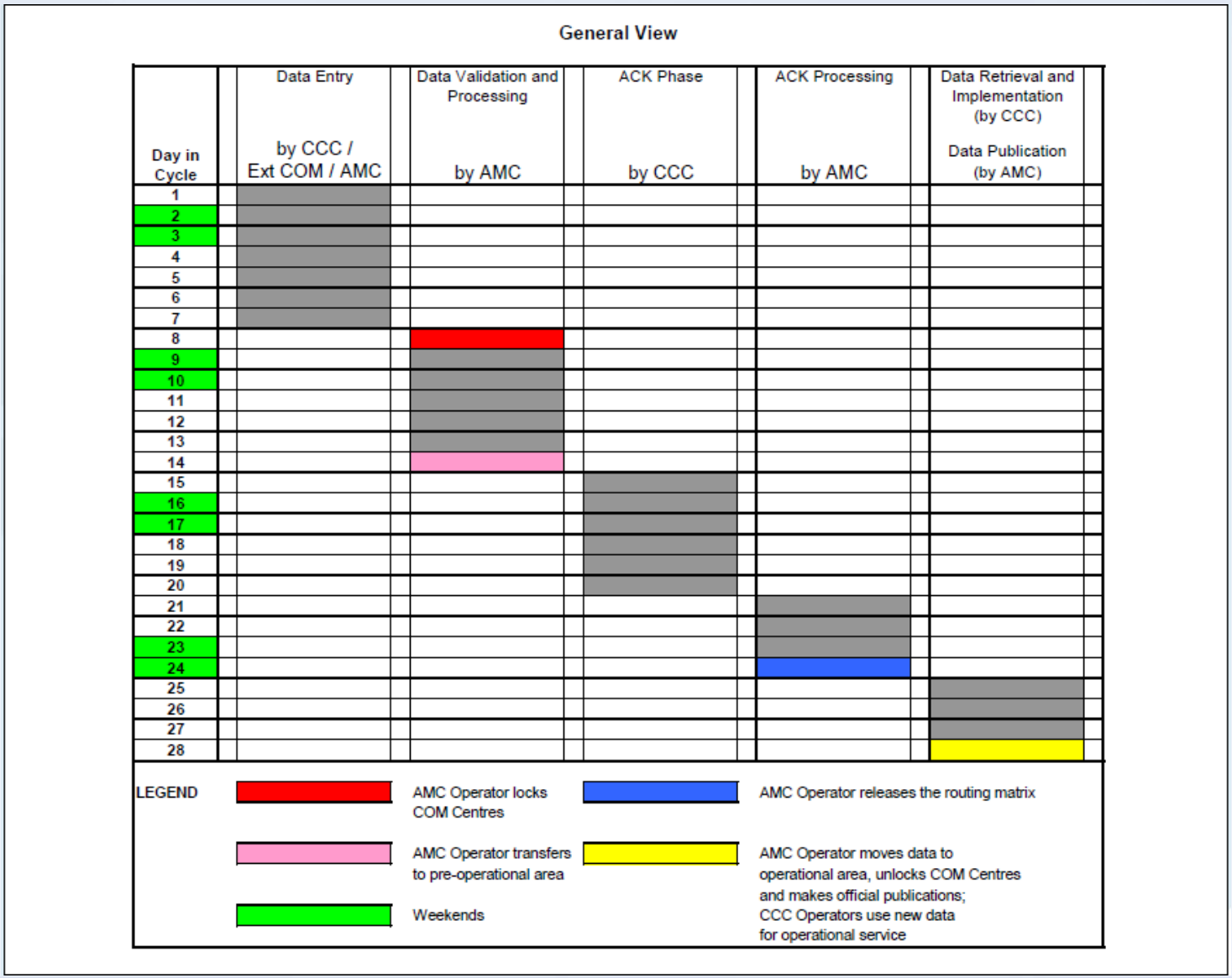
2. Data Validation and Processing Phase
Starts day 8, ends day 14

3. Acknowledgement Phase
Starts day 15, ends day 20

4. Acknowledgement Processing Phase
Starts day 21, ends day 24

5. Data Retrieval and Implementation Phase
Starts day 25, ends day 28

The Procedure AIRAC Cycle



➢ Operational functions and procedures (AMF-O)

1) Network inventory
2) Routing management
3) Address management
4) AMHS user capabilities management
5) COM Chart
6) Statistic Report
7) Static Report (updated data)
8) Miscellaneous functions
9) Security management (for future development)