ATFCM OPERATING PROCEDURES FOR FLOW MANAGEMENT POSITION

Edition N°: 18.1.1

Edition validity date: **30 Sep 2014**

http://www.eurocontrol.int

Edition No.	**:**	**18.1.1**
Edition date	**:**	**30 Sep 2014**
Reference	**:**	**NETWORK OPERATIONS HANDBOOK**
File name	**:**	**ATFCM OPERATING PROCEDURES FOR FMPs**
Number of pages	**:**	**86**

Section	Validity Date	Amendment Notes
1. INTRODUCTION	16-Feb-2012	
2. PRINCIPLES	11-Mar-2014	
3. PARTNERS	16-Feb-2012	
4. OPERATIONAL PROCEDURES	23-Sep-2014	
5. ATFCM DELAY ATTRIBUTION	16-Feb-2012	
6. ATFCM AT AIRPORTS	13-Mar-2013	
7. PROCEDURES IN UNUSUAL CIRCUMSTANCES	**30 Sep-2014**	**Updated FLS comment**
8. CIFLO OPERATIONAL PROCEDURES	13-Mar-2013	
9. COMMUNICATIONS BETWEEN FMPs AND THE NM	11-Mar-2014	
10. INCIDENT REPORTS	16-Feb-2012	
11. REPORTING OF EVENTS IMPACTING ATC/ATFCM	22-Oct-2013	
12. REGULATORY REPORTING PROCESS	16-Feb-2012	
13. SUGGESTION FOR EVOLUTION OF SYSTEM AND PROCEDURES	16-Feb-2012	
14. DEFINITIONS	22-Oct-2013	
15. DICTIONARY OF ABBREVIATIONS	11-Mar-2014	
16 ANNEX A	16-Feb-/2012	
17 ANNEX B	16-Feb-2012	

Amendments to the ATFCM Operations Manual are indicated in **RED** with revision bars.

Significant deletions of text are indicated with the symbol ✂

INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

TABLE OF FIGURES

1. INTRODUCTION

1.1. General

This document forms a separate supplement to the Network Operations Handbook.

The operational procedures described in this document are those specific to the operation between the NM and the FMPs.

As required, amendments shall be integrated into the new edition of the document as standard operational procedures.

1.2. Purpose

The purpose of this document is to provide the Flow Management Positions (**FMPs**) and the NM with common understanding of their roles in delivering the most effective Air Traffic Flow and Capacity Management (**ATFCM**) services to Air Traffic Control (**ATC**) and Aircraft Operators (**AOs**).

1.3. Scope

The scope of this document concerns the roles and responsibilities of FMPs and the NMOC and corresponding procedures in the delivery of ATFCM services.

1.4. Intended Audience

The intended readers are those responsible for providing ATFCM services.

1.5. Interpretation of Words

To ensure a common understanding of meaning of words in this document, the following shall apply:

- 'Shall', 'is to', 'are to', and 'must' mean that the instruction is mandatory.
- 'Will' is only used for informative or descriptive writing, e.g. 'AOs will file .....' is not an instruction.
- 'Should' means that it is strongly advisable that an instruction is carried out; it is recommended or discretionary. It is applied where the more positive 'shall' is unreasonable but nevertheless a controller would have to have a good reason for not doing so.
- 'May' means that the instruction is permissive, optional or alternative, e.g. 'a controller may seek assistance ...' but would not if he/she did not need it.

1.6. Exceptions to the FMP Manual

Special agreements regarding ATFCM procedures between the NM and certain FMPs may exist in Annex 2 of the concerned LoAs; where such exist, they may allow exemptions from the relevant procedures detailed in this manual.

1.7. Validity

The application of this manual is in line with the operational implementation of the NM software releases, with version numbering of the manual reflecting the relevant software release. Incremental numbering shall be used to indicate interim updates. This version corresponds to NM Release 18.0 which is implemented with effect from the date of which will be announced by an Air Traffic Flow and Capacity Management Information Message (**AIM**). This document shall not be used operationally before that date.

INTENTIONALLY LEFT BLANK

2. PRINCIPLES

2.1. General

ATFCM procedures, roles and responsibilities in this document have been established in line with:

a) **ICAO** procedures as defined in the ICAO Doc. 4444, EUR SUPPs Doc 7030 and **ICAO** Doc. 7754, vol. II. These procedures are amended following the **ICAO** consultation process.

b) Procedures specific to the ATFCM operations according to the policy and strategy developed and approved by the responsible EUROCONTROL bodies.

2.2. ATFCM Phases

ATFCM consists of 4 phases:

1. **Strategic Flow Management** takes place seven days or more prior to the day of operation and includes research, planning and coordination activities. It is a co-operative approach of EUROCONTROL involving several units and also all the partners involved in ATM (ANSPs, airports, airspace users, military). The output of this phase is the Network Operations Plan (NOP), that responds to the requirement developed in the context of the Dynamic Management of European Airspace Network (DMEAN) Framework Programme and in the EU Network Management Function Implementing Rule as a single document that incorporates the existing information on traffic demand and capacity plans for each season, identifying bottlenecks and presenting the ATFCM and ASM measures foreseen to counterbalance them.
2. **Pre-Tactical Flow Management** is applied during the six days prior to the day of operation and consists of planning and coordination activities. This phase analyses and decides on the best way to manage the available capacity resources and on the need for the implementation of a wide range of appropriate ATFCM measures. The output is the ATFCM Daily Plan (**ADP**) published via ATFCM Notification Message (**ANM**) / Network News and via the NOP portal
3. **Tactical Flow Management** is applied on the day of the operation. This phase updates the daily plan according to the actual traffic, capacity and monitoring values.
4. **Post Operational Analysis** is applied following the day of operation. This phase analyses the day of operation, and feeds back into the previous 3 phases.

2.3. Areas Covered

The NM Central Airspace and Capacity Database (CACD) covers several different geographical areas that have common and uncommon elements.

The FPM Distribution Area (FPM DIST) is the area in which IFPS is responsible for the distribution of flight plans and associated messages.

The ATFCM Area is the area in which the NM is responsible for the provision of ATFCM.

The NM provides limited ATFCM services to some FIRs which are geographically adjacent to the ATFCM Area. These FIRs, which are collectively referred to as the ATFCM Adjacent Area, have a letter of agreement which details the service level provision.

Additionally, the FMPs of these FIRs may request to apply ATFCM measures for the airports within the FIR or for significant points at the interface between the FIR and the ATFCM Area.

The NM may apply ATFCM measures to flights which:

- Depart from within the ATFCM area.
- Enter the ATFCM area after departing from an adjacent Flight Information Region (**FIR**) within the ATFCM Adjacent Area.

Latest update of the list of adjacent FIRs may be found on the EUROCONTROL website.

2.4. Collaborative Decision Making (CDM) Process

Collaborative Decision Making is a process which allows decisions to be taken by those best positioned to make them on the basis of the most comprehensive, up-to-date and accurate information. This in turn enables decisions about a particular flight to be made according to the latest information available at the time, thereby enabling the flight to be dynamically optimised to reflect near or real-time events.

This CDM process is a key enabler of ATFCM allowing the sharing of all relevant information between the parties involved in making decisions and supporting a permanent dialogue between the various partners throughout all phases of flight. This provides the various organisations with the opportunity to update each other continuously on events from the strategic level to the real-time. To be efficient and reach the required objectives, CDM must be:

- an inclusive process;
- a transparent process;
- a process that builds trust between the players involved.

The principles of CDM have been implemented in the NM day-to-day operations, planning and developments with active involvement of ANSPs (mainly through FMPs) and AOs (through the AO Liaison Officers and the AO Liaison Cell).

2.5. ATFCM Solutions for Capacity Shortfalls Resolution

ATFCM considers continuously and pro-actively all possible ATFCM solutions through an iterative seamless process as from the strategic planning until the execution of the operations. The anticipation of any events according to new information allows to minimise their impact on the network or to take benefit of any opportunity and fine tune the plan accordingly.

To resolve capacity shortfalls and improve the management of the network capacity whilst minimising constraints, the following ATFCM solutions have to be considered, as depicted in Figure 2-1. These solutions will have to be thoroughly evaluated before a decision to implement them could be taken.

ATFCM solutions have been considered in three parts:

1. Optimise Capacity

A number of solutions are considered that should result in maximising capacity in line with profile of traffic demand.

Sector Management

- Configuration
- Number of sectors
- Bandboxing/splitting

Balancing ARR/DEP capacity

Flight list assessment (flights of minor workload)

Increased capacity

- Monitoring values
- Trigger values
- Occupancy counts

ATFCM/ASM

Reduce traffic complexity

- Redistribution of task load between controller roles

2. Utilise Other Available Capacity

Encompasses ATFCM solutions that aim to 'shift' traffic demand into areas where capacity is available.

Rerouting

- Flows
- Flights

FL management

Advancing traffic

STAM (Short Term ATFCM Measures)

3. Manage the Demand

Constraints will be imposed to traffic by ATFM slot allocation and/or locally applied constraints to airborne traffic in order to reduce the demand. Delay will be managed where aircraft are affected by an ATFM regulation in order to offer alternatives and minimise delay.

Action:

Slot allocation

Tactical ATFCM measures

- MDI
- Miles in trail
- Internal rerouting scenarios,
- Average departure interval
- Average departure rate

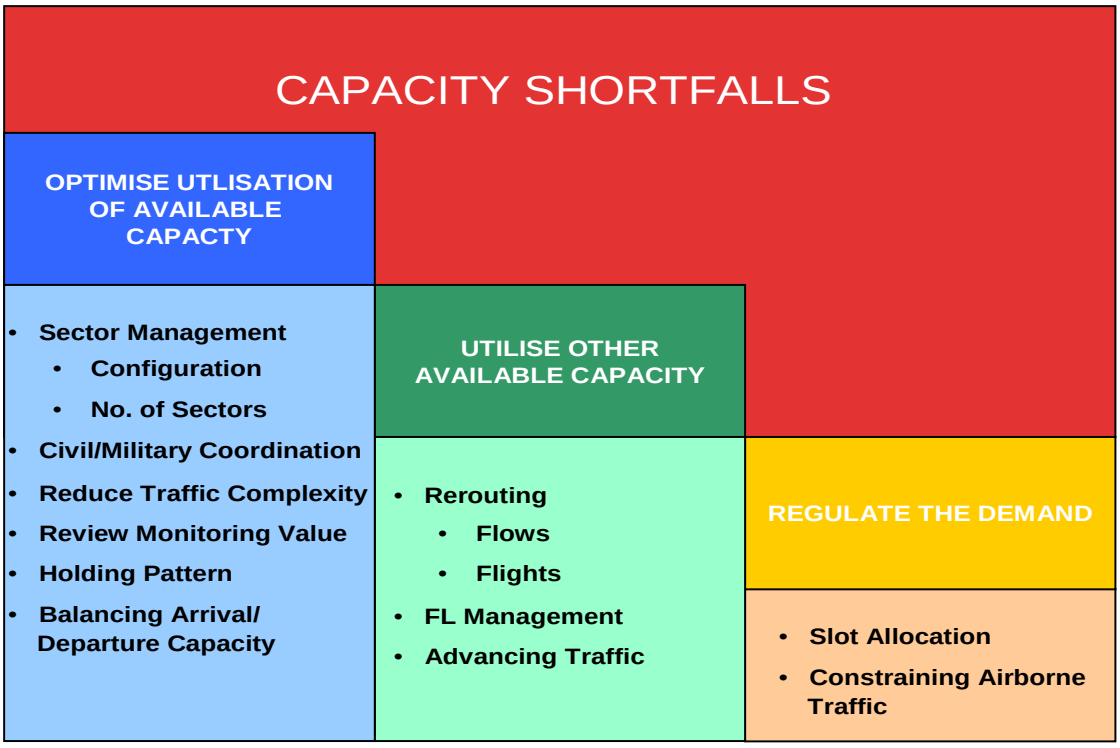


Figure 2-1 ATFCM Solutions for Capacity Shortfalls Resolution

INTENTIONALLY LEFT BLANK

3. PARTNERS

3.1. Flow Management Position (FMP)

3.1.1. General Duties

An FMP is responsible for ensuring the local promulgation, by the appropriate means (national NOTAM, AIP, ATM operational instruction, etc.) of procedures which affect ATC Units or operators within the FMP's area. FMPs shall monitor the effectiveness of such procedures.

Whatever the organisation, the ANSP responsible for the FMP(s) within a State is responsible for establishing local procedures, ensuring the NM is in possession of all relevant data during each ATFCM phase and for checking the accuracy of that data.

Each FMP area of responsibility is normally limited to the area for which the parent ACC is responsible including the area(s) of responsibility of associated Air Traffic Services (**ATS**) units as defined in the Letter of Agreement (**LoA**). However, depending on the internal organisation within a State, some FMPs may cover the area of responsibility of several ACCs, either for all ATFCM phases or only for part of them.

All FMPs within the NM area have equal status. The size of individual FMPs will vary according to the demands and complexities of the area served.

The FMP's role is, in partnership with NMD, to act in such a manner so as to provide the most effective **ATFCM** service to **ATC** and **AOs**.

In this context, the FMP shall ensure that, as detailed below, the NM has all relevant data to enable it to carry out its responsibilities in all phases of the ATFCM operations. The FMP shall provide the NM with data and changes thereto as follows:

- Sector configurations and activations (Pre-Tactical and Tactical phases).
- Monitoring values (Pre-Tactical and Tactical phases).
- Traffic volumes (always).
- Flows to be associated to a reference location (always).
- Taxitimes and runway configurations (Pre-Tactical and Tactical phases).
- Monitoring values of aerodromes/sets of aerodromes/points (Pre-Tactical and Tactical phases).
- Details or events or information that will have an impact on capacity at an aerodrome or ACC (always)
- Feedback on new or trial procedures (Post Operations phase).

The FMP shall provide the NM with 'local knowledge', including any data or information which could be considered as necessary or useful in the effective and efficient execution of the ATFCM task. The NM shall advise the FMP of any events or information which will or may affect the service provided by its parent ACC(s).

The FMP shall be the local ATFCM partner for the ACC(s), other ATS units (military and civil) within the FMP area of responsibility and local Aircraft Operators.

The NM and the FMP are jointly responsible for providing advice and information to ATC as may be required, and to Aircraft Operators as defined in the LoA.

Nevertheless, from a practical point of view, the FMP will be the focus for ATFCM matters within its area and (depending on the local organisation) is likely to take the lead in advising, educating and assisting other ATS Units (**ATSUs**) and, where possible, Aircraft Operators within that area.

The FMP task covers 24 hours and shall be carried out by staff who are adequately trained and competent. In the event that an ACC is unable to provide the agreed staffing for a particular period or duty, the NM is to be advised and alternative arrangements agreed.

3.1.2. FMP Manager

Every ACC in the NM area shall have a person designated as being charged with responsibility for all ATFCM activities in the ACC and within its area of responsibility. This person, known as the FMP Manager, shall act as the focal point for administrative and organisational matters in dealings with the NM. An FMP Manager may be responsible for several ACCs.

The FMP Manager shall be required to meet the following criteria:

a) Have extensive knowledge of the overall ATM operations in the area of responsibility of the ACC(s).

b) Have an extensive understanding of the ATM operations in adjacent ACCs.

c) Have a comprehensive knowledge of the NM organisation and its systems.

d) Have undergone appropriate ATFCM training.

e) Have an extensive understanding of the factors influencing aircraft operations in so far as they may affect ATFCM.

This task may be in addition to other tasks carried out by the individual depending on local arrangements.

3.1.3. FMP Controller

Operational duties carried out by an FMP will be the responsibility of an FMP controller. The dedicated Flow Management Position will be staffed by an FMP controller who may rotate with others from other duties or may be employed as a permanent FMP controller depending on local arrangements.

An FMP controller shall be required to meet the requirements of ESARR5 and:

a) Have extensive knowledge of the overall ATC/ATFCM operations in the area of responsibility of the ACC(s).

b) Have extensive ATC experience, knowledge and understanding of ATC matters in the area of responsibility of the ACC(s).

c) Have an extensive understanding of ATC/ATFCM operations in adjacent ACCs.

d) Have an extensive knowledge of the NM operations.

e) Have undergone appropriate ATFCM training.

These requirements extend to any staff (e.g. ACC supervisors) who carry out the task of the FMP during less busy periods.

States shall define the exact ATC qualifications and grading required in line with ESARR.

3.2. Network Manager Operations Centre (NMOC)

3.2.1. Current Operations Manager

The Current Operations Manager (**COM**) is in overall charge of the NM operations centre (NMOC). In cases of disagreement between FMP and the NM, it is the Current Operations Manager who takes responsibility for deciding on the action to be taken by the NM.

3.2.2. Network Management Cell (NMC)

The NMC has been established to improve the management of preparation of the ATFCM daily plan and contribute to post-event analysis. The main duties include:

- ATFCM Daily Plan preparation.
- CDM activities (e.g. teleconferences).

The NMC also participates in the NM activities in the Strategic phase by carrying out the coordination of specific projects related to special events or specific processes.

3.2.3. Tactical Team

The NM Tactical Team is under the leadership of the FM Supervisor in charge of managing the ATFCM Daily Plan during the day of operation. Their main activities include:

- Execute the tactical flow management operational processes from a network perspective.
- Monitor the load and developing of traffic situation.
- Monitor the effect of implemented measure(s) and take any corrective action, if required.
- Analyse delays in the slot list and try to resolve them in coordination with FMPs.
- Provide support, advice and information to FMPs and AOs as required.
- Notify FMPs of all operational problems that could affect the flow of traffic.
- Collect and collate data concerning ATFCM incidents.
- Execute contingency procedures.

3.2.4. Operational Staffing Competency

Competency of the staff working at the NMOC shall be ensured in line with EUROCONTROL Safety Regulatory Requirements.

INTENTIONALLY LEFT BLANK

4. OPERATIONAL PROCEDURES

A decision to implement and execute ATFCM measures within the Area of Responsibility (**AoR**) of an FMP shall be preceded by coordination between the NM and that FMP. This process shall be orientated by the principles established for the concept of Collaborative Decision Making (**CDM**). The discussions occurring during the CDM activities shall lead to a consensus view and solution implying an official commitment of each participant.

In the Strategic phase the focus is made on analysing major and significant events as well as anticipated capacity shortfalls for individual ACCs/airports. The result is a set of agreed ATFCM measures/solutions (see Figure 2-1) to be considered for implementation (partly or totally) in the Pre-tactical and Tactical phases.

ATFCM measures considered in Pre-tactical/Tactical phases could be extracted from pre-agreed Strategic ATFCM measures or envisaged as ad-hoc measures to respond to a new situation triggered by a change either in traffic demand or ATC system capacity. They should follow the CDM process, i.e. being coordinated between the FMP and the NM to reach an agreement.

When, despite all attempts, such an agreement cannot be reached the implementation of a specific regulation is the responsibility of the FMP. A monitoring and eventual escalation process to higher management should be envisaged if such a situation endures.

The implementation of a network measure (e.g. level capping, rerouting affecting the area of responsibility of other FMPs) remains the responsibility of the NM who will ensure the network benefit through the CDM process.

Measures within the area of responsibility of an individual FMP remain the responsibility of that FMP. In such cases, the NM should be informed.

Short-term measures could be agreed between adjacent FMPs. In such cases, the NM should be informed.

4.1. The Strategic Phase

The Strategic phase, which takes place seven days or more prior to the days of operation, consists of the evaluation of demand and capacity, up to around one year and a half in advance of the day of operations. It is a co-operative approach of EUROCONTROL involving several units and also all the partners involved in ATM (ANSPs, airports, airspace users, military). It will provide, at any specific time, the best picture of the planned traffic situation, in which collaboratively agreed solutions will seek to balance demand and capacity requirements.

The output of the Strategic phase is the Network Operations Plan (**NOP**) that responds to the requirement developed in the context of the Dynamic Management of European Airspace Network (DMEAN) Framework Programme and the Network Management Implementing Rule as a single document that incorporates the existing information on traffic demand and capacity plans for each season, identifying bottlenecks and presenting the ATFCM and ASM measures foreseen to counterbalance them.

4.1.1. FMP Responsibilities

4.1.1.1. General

The FMP shall provide the representation necessary at national and, if required, at international strategic planning meetings to ensure participation in the preparation of strategic ATFCM plans.

The FMP shall inform local AOs of their role in providing advice and information by arranging for the relevant FMP telephone numbers to be published in the National AIP with a short description of the service provided and the type of query answered.

The FMP shall pass accurate and up-to-date information to the NM (see paragraph 4.1.1.2). They shall ensure all essential data required by the NM in the Strategic phase is passed in accordance with procedures detailed in a Supplement to the Network Operations Handbook 'PROVISION OF ENVIRONMENT DATA'.

Additionally, the FMP shall:

- Ensure that coordination procedures established between the FMP and the appropriate national authority are followed to ensure the FMP is kept informed of planned airspace or ATC organisational changes.
- Have access to advanced information on special events or military activity affecting their area.
- Be involved in discussions on the timing or implementation of airspace changes and other such activities.

4.1.1.2. Provision of Information

The FMP will pass to the NM information useful to ATFCM strategic planning including:

- Monitoring values.
- Sector configurations.
- A list of aerodromes likely to require ATFCM measures in normal and unusual circumstances (e.g. low visibility).
- Advanced warnings of changes to ATC procedures likely to affect traffic patterns (within or outside the FMP area) or have implications for ATFCM planning.
- Specific local knowledge (e.g. information on ATC operating methods or traffic handling problems in a particular ATC sector) that may need to be taken into account when planning ATFCM measures, etc.
- Advance information on all known problems likely to require ATFCM intervention as soon as possible after such information is available such as large sporting events, international conferences, military exercises, etc., likely to disrupt normal traffic patterns
- Advance details of equipment or long-term staffing changes likely to affect capacity.
- Major changes to airspace organisation, ATC sectorisation etc., entailing significant modifications to the environment.
- ACC contingency plans.
- Long-term feedback on the effects of ATFCM measures.

4.1.1.3. Traffic Volume (TFV) Handling

4.1.1.3.1. General

A Traffic Volume (**TFV**) is an element of ETFMS/Predict allowing the selection of a specific volume of air traffic, in order to compare the traffic load and the declared monitoring values during the activation period.

A TFV is a tool used by the NM and the FMPs for:

- Monitoring.
- Applying ATFCM Measures.

Requests for creation, modification or cancellation of a TFV shall be submitted via e-mail by the FMP concerned to the dedicated e-mail address **nm.tfv@eurocontrol.int**.

This is the only point of contact e-mail address to be used for reception of TFV requests. Under no circumstances is a personal e-mail address to be used. In the event of unserviceability of e-mail, the fax number + 32 2 729 9026 may be used as a backup.

Requests shall be submitted using the request form for traffic volume creation as found in the Supplement to the Network Operations Handbook 'Provision of ENV Data'.

The receipt of the request will be confirmed by the NM normally within 48 hours via e-mail. When the request has been actioned, a Data Modification Request (DMR) number will be allocated by Remedy and this number should be forwarded to the FMP concerned. The DMR number will allow the FMP to track the progress of the request through the CHMI.

As soon as the new or modified TFV is available in the NM ENV database, the NM shall carry out quality control to make sure, in cooperation with the FMP concerned, that the traffic capture is fit for purpose, using either the PREDICT system or ETFMS. In the event that the TFV does not perform as required, appropriate corrective action shall be undertaken.

4.1.1.3.2. TFV Submission by FMP

ATFCM Phase	Send to NM	e-mail	Fax
Strategic	NMC	nm.tfv@eurocontrol.int	+32 2 729 9026
Pre-tactical	NMC	nm.tfv@eurocontrol.int	+32 2 729 9026

4.1.1.3.3. TFV Creation

A TFV must always be related to only one Reference Location (**RL**) but one RL can constitute the basic element for several TFVs. The RL is based on a geographical entity. It is either an Aerodrome (**AD**), a Set of Aerodromes (**AZ**), an Airspace Volume (**AS**), or a Significant Point (**SP**).

A new TFV can be created on line in Pre-Tactical and Tactical, only if the RL already exists. If a TFV is to be based on a new RL, it can be created only for the next AIRAC cycle.

TFVs may be:

- global (all traffic), or
- with flows.

4.1.1.3.3.1. Flows

Note: Description of flows is the responsibility of the NM based on the FMP request submitted by means of the data submission form for associated flows, which may be found in a Supplement to the Network Operations Handbook 'PROVISION OF ENVIRONMENT DATA'

Flows on TFVs have the purpose of specifying the flights which are subject or not to ATFCM measures. A TFV always consists of **all** or **one** or **several** flows. In the case of **all** flows, it means that no specified flow is defined (i.e. all traffic is included).

A flow may consist of upstream location(s), or downstream location(s), or both. The location(s) can be aerodrome(s), or set(s) of aerodromes with a flow originating or terminating at these aerodromes, airspace volumes or significant points. A flow may be defined by a maximum of three upstream and three downstream locations. The reference location has to be between the upstream and the downstream locations.

When a reference location is defined as an airspace volume the time considered for a given flight is the entry time to the airspace volume. For a significant point it is Estimated Time Over (**ETO**) that point and for an aerodrome, Estimated Time of Arrival (**ETA**) or Estimated Time of Departure (**ETD**) as appropriate.

Each flow may be defined as:

- Included **(IN**): Flow(s) will be subject to counts and possible ATFCM measures in relation to the corresponding TFV. When one or more flows have been 'Included', all the other flights are then considered 'excluded'.
- Excluded (**EX**): Flow(s) will not be subject to counts and possible ATFCM measures in relation to the corresponding TFV.
- Exempted (**EM**): Flow(s) will be subject to counts, but not to ATFCM measures in relation to the corresponding TFV. In case of a regulation these flights will be shown in the slot list but with no delay and they will not be considered for a rerouting.
- Included/Exempted (**IE**): Flow(s) will be included (IN) and subject to counts but not to ATFCM measures in relation to the corresponding TFV.

4.1.1.3.3.2. Associated Flows

Flows may be associated to a reference location. This is a particular feature that should not be confused with the use of flows in traffic volumes. The association of flow(s) to a reference location allows the NM and the FMPs to display detailed counts of these Flows of traffic for that particular reference location. The display is done through a traffic volume.

4.1.1.3.3.3. Monitorable TFV (MO)

The **MO** information indicates the TFV, which shall be monitored when the sector is active in a sector configuration. Several TFVs may be monitorable. When the sector, which is used as reference location of the TFV, is activated according to the configuration, the TFV is activated during the same period for the NM and FMPs to monitor.

4.1.1.3.4. TFV Modification and Deletion

A TFV can be modified or deleted only in accordance with AIRAC cycles.

When a TFV is deleted from the database, it will be transferred to the TFV SET called 'BIN…' (the dots represent the number of the AIRAC cycle) where the deleted TFV will remain until the next AIRAC cycle.

4.1.2. NM Responsibilities

The NM participates in the overall coordination and execution of strategic ATFCM planning. During the Strategic phase research, planning and coordination activities are carried out to achieve early identification of major demand or capacity problems in the ATM network and planning of corrective actions.

The most important task with the NM's involvement is the creation of a European capacity plan for the forthcoming year and the participation in the preparation, implementation and use of the route network.

It focuses on the principal airspace and route utilisation changes that will contribute to performance enhancement including flight efficiency initiatives and ATFCM routeing scenarios aimed at optimising use of available capacity.

4.1.2.1. Route Availability Document (RAD)

The RAD is an ATFCM tool that is designed as a sole-source flight-planning document, which integrates both structural and ATFCM requirements, geographically and vertically.

The RAD is updated each AIRAC cycle following a structured standard process of:

1. Requirement.
2. Validation.
3. Publication by the **NM** in cooperation/coordination with the States and the Aircraft Operators.

The objective of the RAD is to facilitate flight planning in order to improve ATFCM, while allowing aircraft operators' flight planning flexibility. It provides a single, fully integrated and coordinated routeing scheme. Except where otherwise specified the RAD affects all NM airspace.

The RAD enables ANSPs to maximise capacity and reduce complexity by defining restrictions that prevent disruption to the organised system of major traffic flows through congested areas with due regard to Aircraft Operators requirements.

The RAD is designed as a part of the NM ATFCM operation. It organises the traffic into specific flows to make the best use of available capacity. Whilst, on its own, it will not guarantee the protection of congested ATC sectors during peak periods, it should facilitate more precise application of tactical ATFCM Measures.

The RAD should also assist the NM in identifying and providing rerouting options. Global management of the demand will, potentially, lead to an overall reduction of delays.

It is important to note that to achieve this, some re-distribution of the traffic may be required through the implementation of Scenarios. This may result in modified traffic/regulations in some areas where, under normal circumstances, they would not be seen.

The RAD is subject to continuous review by the NM, the ANSPs and AOs to ensure that the requirements are still valid and take account of any ATC structural or organisational changes that may occur. Further reviews may be initiated at the request of the States or the User organisations.

The RAD is published on the NOP Portal at:

https://www.public.nm.eurocontrol.int/PUBPORTAL/gateway/spec/index.html

4.1.2.2. Scenarios

For each area expected to be critical, a number of flows may be identified by the NM, for which other routeings may be suggested, that follow the general scheme, but avoid the critical area. These measures are known as routeing scenarios. There are three types:

- **Rerouting scenarios:**

  Mandatory diversion of flows to offload traffic from certain areas; implemented in ETFMS by EX con (exceptional conditions) zero-rate regulations or in the ENV system through dynamic routeing restrictions.

- **Level capping scenarios:**

  Carried out by means of level restrictions (e.g. flights from EDDN to Paris TMA shall file below FL245); implemented in ETFMS by zero-rate regulations or in the ENV system through dynamic routeing restrictions.

- **Alternative routing scenarios:**

  Alternative routes which are exceptionally made available to offload traffic from certain areas, implemented by regulations with a low rate. The other option is the application of dynamic routing restrictions in the ENV system (precaution should be exercised by enabling the routing through normally closed airspace without low rate regulation).

The list of available scenarios is promulgated on the NOP Portal:

https://www.public.nm.eurocontrol.int/PUBPORTAL/gateway/spec/index.html

4.1.2.3. Network Operations Plan (NOP)

The Network Operations Plan (**NOP**) has been developed in the context of the Dynamic Management of European Airspace Network (**DMEAN**) Framework Programme to build a single document that provides a consolidated view of the forecast seasonal, monthly, weekly and daily ATFCM situation.

This service improves through a consolidation of the planning and monitoring activities and a stronger cooperation with airspace design, airspace management, aircraft operators, air traffic services and airport partners supported by an enhancement of the information exchange system. It incorporates the existing information on traffic demand and capacity plans, identifying bottlenecks and presenting the ATFCM and ASM measures foreseen to counterbalance them.

The objectives are to update permanently the ATM Network Operations Plan, using scenarios, providing common situation awareness, and minimising the impact of the lack of resources while ensuring a common understanding of the situation.

In the context of NOP winter is defined as the period 31st October – 30th April and summer 1st May – 30th October).

Special events expected to affect the demand and for which specific ATFCM measures have been planned are also described in detail in the document.

The NOP is published on the NOP portal at:

https://www.public.nm.eurocontrol.int/PUBPORTAL/gateway/spec/index.html

4.1.2.4. Simulations

The NM can run ATFCM simulations in order to evaluate a set of capacity constraints in terms of total delay generated, delay distribution and individual delay generated by each capacity constraint. Traffic demand may be modified by a traffic growth function or by means of rerouting.

The results of the simulation may include:

- Rerouting traffic flows and re-calculating loads.
- Overlaying and comparing load graphs on actions performed (i.e. before and after effect).
- Creating a regulation plan and analysing the delay distribution.
- Producing 'screenshot' images of simulations performed (i.e. traffic flows, load graphs, flight lists etc.).
- Comparing different sector configurations.

These simulations may also be conducted on request of the FMP. If too many simulations are requested at the same time, the NM will prioritise the requests and will advise the FMP.

Requests for simulations relative to major changes to airspace should be booked with the NM well in advance. To enable effective running of the simulation the FMP will ensure that the relevant environment data are provided to the NM as set out in a Supplement to the Network Operations Handbook 'PROVISION OF ENVIRONMENT DATA'.

4.1.3. CDM in Strategic

NM CDM conferences are usually run using a web based teleconferencing tool. Anyone wishing to attend a NM CDM conference should consult the NM NOP Portal to obtain more information.

4.1.3.1. Seasonal CDM Conferences

Each seasonal or significant event (e.g. South-West Axis, Ski Axis, major sporting events, etc.) is prepared through dedicated CDM conferences. The outcome includes a list of possible ATFCM measures (e.g. scenarios) and the monitoring process to fine-tune the event management.

4.2. The Pre-Tactical Phase

4.2.1. General

This working process which starts six days before the day of operations, aims mainly at refining the details of the original forecast over time and at preparing and promulgating an optimised and detailed operational plan (ATFCM Daily Plan - ADP). This working process is supported by Collaborative Decision Making (CDM) activities involving all partners concerned (NM, ANSPs, AMCs, and AOs).

4.2.2. FMP Responsibilities

To facilitate the CDM process, the FMPs should assist the NM to check their sector configurations, activation time periods and monitoring values for correctness, as displayed in PREDICT as from D-6. Any differences should be reported directly to the NM NMC.

On D-1 FMPs should access PREDICT and view the draft ADP. Any FMP wishing to discuss any part of the plan should contact the NMC. In order to permit time for discussion and to meet the deadline for the ANM publication, discussions will take place between 12:30 and 13:30 UTC in winter time (1 hour earlier in summer time). Where FMPs have to delay their input, they shall contact the NMC to advise them of this. Normally, if no communication is received by the NMC by 13:30 UTC in winter time (1 hour earlier in summer time), it will be considered that the FMP concerned is in agreement with the proposals. However, the

NMC may continue contacting those FMPs after this time where significant changes to the original plan have been introduced.

To discuss the Pre-Tactical plan FMPs concerned have an opportunity to participate in CDM conferences organised by the NM.

The FMPs concerned shall forward their feedback on the ADP to the NMC. In particular, problems such as incorrectly defined pre-tactical regulations, scenarios or rerouting of flows are expected.

4.2.2.1. Provision of Information

The FMP will pass to the NM information useful to ATFCM pre-tactical planning including but not limited to

- Monitoring values
- Sector configurations
- Runway data updates
- Information on all known problems likely to require ATFCM intervention as soon as possible after such information is available such as large sporting events, international conferences, military exercises, etc., likely to disrupt normal traffic patterns
- Regulation proposals (creation, modification cancellation) through NOP portal Regulation Editor

  Note : only for eligible FMPs
- Details of equipment or staffing changes likely to affect capacity
- Feedback on the effects of ATFCM measures

4.2.3. NM Responsibilities

4.2.3.1. ADP Preparation

Starting with D-7 historical/anticipated traffic forecast, demand is compared by NMC against the expected sector configuration and declared monitoring values, in order to identify the capacity shortfalls. Application of ATFCM measures as described in the Figure 2-1 should be considered to resolve the demand/capacity imbalances. A comparison of the available network capacity is carried out to reduce both the number and the possible impact of ATFCM regulations.

The result of this working process is the first consolidated ADP made available in PREDICT by NMC not later than 15.00 UTC in winter time (1 hour earlier in summer time) on D-1.

4.2.3.2. Publication of ADP and EAUP/EUUP

4.2.3.2.1. ATFCM Daily Plan (ADP) Publication

The ATFCM Daily Plan (**ADP**) is a set of ATFCM measures that will be in force in European airspace on the following day.

The NM shall coordinate and define the daily plan and inform aircraft operators and ATC units about the ATFCM measures. Through the ATFCM Daily Plan the NM is trying to optimise available capacity to meet forecast demand and to manage demand to minimise delay and cost. The NM shall publish the agreed plan for the day of operations after a collaborative decision making process.

The ATFCM Daily Plan shall be altered if necessary through real-time optimisation of capacity/demand creating common situational awareness across the Network.

The ADP is promulgated by means of an ANM and the Network News.

4.2.3.2.1.1. ANM (ATFCM Notification Message)

The ATFCM Notification Message (**ANM**) is a message issued by the NM to inform all concerned of the measures in the ATFCM Daily Plan. The ANM is finalised the day before the day of operations and released around 17:00 UTC in winter time (1 hour earlier in summer time). The ANM is available on the NM NOP Portal and a hardcopy is also sent to all registered addresses via the AFTN network.

4.2.3.2.1.2. Network News

In addition to the ANM, excerpts from the ATFCM Daily Plan in plain text are published at 17:00 UTC in winter time (1 hour earlier in summer time) in the Network News via an AIM. Through the Network News the NM advises ANSPs and AOs of all areas predicted to have a significant impact on the network together with advice offered to AOs on actions to take including routes and/or levels to be filed to contribute to better utilisation of network capacity while avoiding heavy delays.

4.2.3.2.2. Publication of EAUP/EUUP

The European Airspace Use Plan (EAUP) contains the consolidated list of available CDR2s, and closed CDR1s or permanent ATS routes as repetition of prior notice by NOTAM. It also contains the planned activations of restricted airspaces, but the access to this data is for the moment restricted to certain types of users.

The EAUP is issued by the NM each day by 14.00/15.00 UTC (summer/winter time). It covers the 24 hour time period between 06.00 UTC the next day to 06.00 UTC the day after. After the publication of the EAUP, updated Airspace Use Plans may be issued and published as European Updated Airspace Use Plan (EUUP).

EAUPs and EUUPs are available through the NOP Portal, in the EAUP/EUUP portlet. A compare function enables the user to visualise the changes made between different versions.

In the context of B2B web services, the same data is also available through the e-AMI (electronic Airspace Management Information). A system to system connection can be established to integrate the e-AMI into stakeholders' own applications.

4.2.4. CDM in Pre-Tactical

4.2.4.1. NM CDM Conference

NM CDM conferences are usually run using a web based teleconferencing tool, WebEx. To attend a NM CDM conference, consult the NM NOP Portal to obtain more information.

4.2.4.1.1. D-1 Planning and Review of ATFCM Situation (Pre-Tactical) CDM Conferences

Each day at 15:00 UTC in winter time (1 hour earlier in summer time) the NM briefs attendees on the current ATFCM situation in Europe and prospects for the following day based upon the plan the NM has constructed that day.

4.2.4.1.2. Ad-hoc CDM Conferences

Ad-hoc CDM conferences are organised whenever there is a need to discuss a course of action, in order to prepare and monitor events such as industrial actions, important sporting events, etc.

Notification and invitation will be given by AIM and/or NOP Portal Headline News which will give details on how to attend

4.2.4.2. Feedback on ADP Quality

The opinions and comments concerning the ADP quality received from FMPs, AOs as well as from the NM units represent very important input for further improvement of the NM Pre-Tactical planning. This feedback will help the NM to identify the reason(s) and determine corrective actions to avoid reoccurrence.

Systematic feed-back from AOs is gathered via the AO Liaison Cell. FMPs provide their feedback to the Axis managers via nm.strategic.operational.planning@eurocontrol.int .

4.2.5. OPTICON (OPTI-mise CON-figuration)

A tool called OPTICON helps in the choice of sector configuration and to enable better assessment of impact of the change of configuration.

For the selected airspace (must be an ACC airspace) and a given time period OPTICON suggests:

- A list of configurations based on the minimum number of opened sectors giving no over-delivery.
- An optimal use of ACC staff available.
- Selected configurations can be displayed one at a time on the map.

4.2.6. PREDICT

PREDICT is used to support the NM Pre-Tactical planning for the day being planned (D) and can be accessed by FMPs via CHMI (read only) as from D-6.

PREDICT provides:

- A reasonably accurate overview of the traffic loading on the day being planned.
- Sector configurations and monitoring values supplied by FMPs.
- An ETFMS-like environment in which patterns of ATFCM measures (regulations and reroutings) can be simulated off-line, without consequence on operations, to see their overall effect.
- Ability to cope with the network effect.

PREDICT input consists of:

- **Flight Data.** Nominal (first filed) flight plans from the reference day (normally from previous week). These flight plans may be replaced or changed by NMC to better reflect the anticipated demand (for instance, changed North Atlantic tracks)
- **ENV Data.** PREDICT receives new Environment data every 4 weeks as part of the normal AIRAC Cycle, as well as on-line environment updates.

Protected NOP for authorised FMPs can also be used to send regulations proposals to NM.

4.2.7. SIMEX

SIMEX has been developed as a tool in ETFMS/PREDICT to provide simulation facilities in both Tactical and Pre-tactical operations. It can be used to evaluate a set of capacity constraints in terms of total delay generated, delay distribution and individual delay generated by each capacity constraint. Traffic demand may be modified by a traffic growth function or by means of rerouting.

Published simulations may be accessed and updated by FMPs with CIFLO read/write access.

4.3. The Tactical Phase

4.3.1. General

The Tactical phase, which takes place on the day of operation, consists of considering the real-time events and applying any refinements needed to the ATFCM Daily Plan in order to restore the ATFCM stability. The need to adapt the original plan may result from significant weather phenomena, unexpected ground or space infrastructure opportunities/limitations, more accurate FPL data, revised monitoring values, etc. The main purpose will be to minimise the impact of any disruptions and to take benefit of any opportunity (e.g. opening of a new sector, closure of military areas, etc.). This will rely on the provision of the traffic and capacity situation as accurate as possible to all partners.

The management of the traffic will be made through capacity enhancements, configuration management, regulations, cherry picking and variety of scenarios like level capping or rerouting (both mandatory and advisory).

Note: It must be remembered that scenarios should normally be coordinated and implemented in Pre-tactical. When there is a need/request in Tactical, it should be investigated whether it is really necessary or if other measures like cherry-picking of individual flights are not sufficient. If a scenario is retained, its implementation should normally be **at least 3 hours in the future** to minimise the risk of late filing for the aircraft operators concerned.

Note: Whereas the final decision on the regulation implementation is for the FMP, the details on the regulation itself, like window width or other parameters, remain for the NM except if otherwise specified through particular instruction.

Monitoring of the traffic load shall be the joint responsibility between the NM and FMPs unless formally agreed otherwise.

Any FMP may request the NM to stop monitoring their sectors. FMPs shall in this case take full responsibility for monitoring.

When an FMP agrees to handle more traffic without a regulation the NM Network Operations shall propose to update the monitoring value accordingly for the corresponding period. In case of FMP refusal:

- The MV shall not be updated
- The FMP shall be informed that this means that the NMOC can not properly monitor the TFV.

  Note: This does not remove the task to further monitor the TFV but reduces the responsibility accordingly.

A claim shall be filed with ATFCM Investigations so that the NMD Network Operations management can follow up the claim conclusion with the FMP management.

4.3.2. FMP Responsibilities

4.3.2.1. General

a) Using the NM Client Application to:

- Monitor the load and compare demand with the monitoring value of critical sectors.

  Note: Predict Flight Data (PFD) can be transferred by NMC to ETFMS with the ADP. PFD are then displayed as part of the demand until replaced by real Flight Plans or removed at EOBT - 4 hours. Load based on PFD shall be considered with caution since PFD represent historical and/or anticipated demand rather than real flight plans. The Network News will inform if PFD has been transferred to ETFMS.

- Taking appropriate action when excesses of demand over monitoring value are detected such as:
  - Coordinating changes to ATC staff disposition to increase capacity on affected sectors.

- Opening additional sectors.
- Coordinating with the NM the implementation of scenarios.
- Coordinating temporary additional capacity as required.
- Requesting the NM to implement a regulation indicating the appropriate regulation cause.

- Monitor the effect of implemented measure(s) and take any corrective action, if required.
- Analyse delays in the slot list and try to resolve them in coordination with the NM.
- Provide support, advice and information to ATC, airports and AOs as required.
- Discuss with the NM optimum sectors configuration (e.g. use of OPTICON).

b) Passing details to the NM on:

i. All tactical changes to environmental data such as the opening and closing of airways, ATC sectors, runway changes and taxi times at specified aerodromes, etc.

ii. Changes to monitoring value figures resulting from unpredicted staffing shortages or increases, equipment failures, adverse weather conditions, reduced runway landing rates due to low visibility, change in military activity plan etc.

iii. Changes in sector configurations, monitoring value figures, environment data and procedures affecting flight profiles for the AoR of the FMP, in particular taxi time and runway configuration.

c) Notify the NM of all operational problems that could affect the flow of traffic.

d) Ensuring the NM is aware of the implementation of, or changes to, local tactical ATC measures *(*e.g. Minimum Departure Intervals (**MDIs**), tactical reroutes of airborne traffic) that may affect the ATFCM situation.

Note: To avoid confusion and ensure compatibility with the ATFCM plan, the planned use of tactical ATC measures that may affect the ATFCM situation in the Tactical phase is to be coordinated with the NM in advance whenever possible, as part of the Strategic or Pre-Tactical planning operations, in particular, any use of MDIs which shall be limited to no more than 30 minutes.

e) Notify the NM of ATFCM incidents and collecting and collating data for those reports as detailed in the relevant FMP operating procedure.

f) Execute contingency procedures (see Annexes A and B) and, in emergency situations not foreseen in these plans, act in such a manner so as to ensure that the safety of the ATC system is not jeopardised.

g) Departure slot compliance monitoring for aerodromes within the FMPs area of responsibility.

4.4. Other Operational Procedures in Tactical Phase

4.4.1. Regulation Cause

The FMP, in conjunction with the NM, shall ensure that the cause of the regulation is input correctly in the appropriate field (cause field) of each regulation, and, consequently, is recorded for future analysis. In order to maintain consistency, the NM shall offer strong guidance on the appropriate regulation cause. However, the final decision for the regulation cause remains the responsibility of the relevant FMP. The cause shall be qualified by use of the following pre-defined classification.

The following are guidelines agreed by the delay task force of the ODSG, NETOPS and endorsed by NDOP.

The use of the most appropriate regulation reason is important and time should be taken to coordinate the best reason to reflect the true cause of delay.

An ANM remark should always be used in addition to one of the standard regulation

reasons.

As far as possible one of the recommended standard ANM remarks should be used.

Free text should only be used if one of the standard ANM remarks is not appropriate. If free text is used care should be taken to ensure it clearly reflects the cause of delay.

The following paragraphs give an explanation of the guidelines

ATC Capacity / staffing

Planned capacity: As published in the Network Operations Plan.

Declared capacity: The more detailed capacity available during the strategic and pre-tactical process.

Expected capacity: The capacities (monitoring values and sector configurations) decided and finalised at the end of the pre-tactical process (1600 UTC D-1).

If a regulation is applied because traffic is expected to be higher than the expected capacity (the capacity plan of at least D-1), then ATC capacity should be the regulation reason.

If a regulation is applied because the centre is unable to deliver the expected capacity then ATC staffing should be the regulation reason. It is an “on the day shortage of capacity” and in general is due to controller unavailability.

Airport Delay

Airport delay should be recorded as follows:

- ATC capacity for when an ATC problem is responsible for the operational issue.
- Aerodrome capacity for when an airport infrastructure problem is responsible for the operational issue.
- Aerodrome services (currently Equipment non ATC) for when a support service problem is responsible for the operational issue.

The regulation reason name of “Equipment non ATC” will be changed in due course to “aerodrome services” to better reflect the concept of support services at the airport.

Examples include:

Fire Services, Lack of de-icing equipment, ground handling etc.

De-icing

De-icing as a regulation reason will be deleted and added to “Aerodrome services” regulation reason.

Airspace Management / Special Events

Airspace Management is focussed on normal military operations and the flexible use of airspace which can be both planned and unplanned.

Major military exercises, e.g. Tiger meet, are deemed special events and an ANM remark is added to identify them.

Regulation Cause	CODE	Regulation Location	Guidelines for Application
ATC Capacity	C	D E A	En Route: Demand exceeds or complexity reduces declared or expected ATC capacity [1] Airport: Demand exceeds declared or expected ATC capacity.
ATC Industrial Action	I	D E A	Reduction in any capacity due to industrial action by ATC staff
ATC Routings	R	E	Network solutions/scenarios used to balance demand and capacity
ATC Staffing	S	D E A	Unplanned staff shortage reducing expected capacity.
ATC Equipment	T	D E A	Reduction of expected or declared capacity due to the non-availability or degradation of equipment used to provide an ATC service.
Accident/Incident	A	D A	Reduction of expected ATC capacity due to an aircraft accident/incident.
Aerodrome Capacity	G	D A	Reduction in declared or expected capacity due to the degradation or non-availability of infrastructure at an airport. e.g. Work in Progress, shortage of aircraft stands etc. Or when demand exceeds expected aerodrome capacity.
Equipment NON ATC- to be Aerodrome Services	E	D A	Reduced capacity due to the degradation or non-availability of support equipment at an airport e.g. Fire Service, De-icing / snow removal equipment or other ground handling equipment.
Industrial Action NON ATC	N	D A	A reduction in expected/planned capacity due to industrial action by non ATC personnel.
Airspace Management	M	D E A	Reduction in declared or expected capacity following changes in airspace/route availability due to small scale military activity.
Special Event	P	D E A	Reduction in planned, declared or expected capacity or when demand exceeds the above capacities as a result of a major sporting, governmental or social event. It may also be used for ATM system upgrades and transitions. Large multinational military exercises may also use this reason. This category should only be used with prior approval during the planning process.
Weather	W	D E A	Reduction in expected capacity due to any weather phenomena. This includes where weather impacts airport infrastructure capacity, but where aerodrome services are operating as planned /expected.
Environmental Issues	V	D E A	Reduction in any capacity or when demand exceeds any capacity due to agreed local noise, runway usage or similar procedures. This category should only be used with prior agreement in the planning process.
Other	O	D E A	This should only be used in exceptional circumstances when no other category is sufficient. An explanatory ANM remark MUST be given to allow post ops analysis.

Note: Regulation Location: **D** - Departure; **E** - Enroute; **A** - Arrival

The FIELD 'Regulation Note' free text, shall be used to elaborate on the cause.

4.4.1.1. ANM Remarks Table

Regulation Reason Weather: Clarification to be added to ANM remark
Cloud Ceiling
Fog/Low Visibility
Heavy Rain
Removal of snow ice on taxiway, runway
De-icing aircraft
Ground handling impaired by conditions
Thunderstorms
Wind

Regulation Reason Aerodrome Capacity: Clarification to be added to ANM remark
Work In Progress
System Maintenance
Security Alert
Technical Failure
Reduced Stand Availability
High Demand

Regulation Reason Equipment Non ATC: Clarification to be added to ANM remark
Reduced Fire cover
Lack of De-icing / snow removal equipment
Non availability of ground handling.

Regulation Reason ATC Equipment: Clarification to be added to ANM remark
Radar Failure
Communication Equipment Failure
Calibration of Navigation Aids

Regulation Reason ATC Capacity: Clarification to be added to ANM remark
High Demand
High Traffic complexity
Planned sector configuration

Regulation Reason Airspace Management: Clarification to be added to ANM remark
Planned military exercise (Include the name)
Unplanned military activity

Regulation Reason Special Event: Clarification to be added to ANM remark
Sports Event (Include the name)
Governmental Meeting (Include the name)
State/VIP visit
Major military exercise (Include the name)
ATM transition (Include the name)

Regulation Reason Other: Clarification to be added to ANM remark
Volcanic Activity
Airspace closure due to extended or large scale military activity.
Traffic onload due to disruption in neighbouring ACC (Include the name)

Standard remarks should be used as far as possible; 'Other' should only be used exceptionally. The remarks included above are based on events where the use of other is appropriate.

This list is not exhaustive and additional remarks may be used however where the above standard remarks are appropriate they should be used.

FMP and NMOC staff should be aware that only the last ANM remark entered is recorded for statistical purposes. Any changes to the ANM remark should ensure the standard phrase is included.

The phrases 0 rate, zero rate or airport closed should not be used as this is the effect of the regulation rather than the cause.

To aid statistical retrieval the standard remarks should be added as they appear in the above tables. Specific details should be added where available after the standard remarks.

4.4.2. Slot Allocation Procedure

Detailed description of the ETFMS slot allocation process is available in the ATFCM Users Manual.

FMPs may play an active role in slot modification by means of:

- READY procedure (for flights having already received their slot and being in a ready situation, the AO may ask local ATC to send a Ready (**REA**) message; for details see ATFCM Users Manual).
- Last minute improvement procedure.

4.4.2.1. Last Minute Improvement Procedure

The aim of this procedure is to take advantage of very short notice improvements made available in a particular ACC or sector. The main targets of such improvements are short haul flights with disproportionate delays.

The procedure applies to flights:

- Operating entirely within the airspace of one ACC **or**
- Operating between two adjacent ACCs **or**
- Entering the concerned regulation in the next 30 minutes

The FMP shall monitor the slot allocation list in order to detect flights with disproportionate delays. Having identified any such flight(s), the FMP may contact the relevant NM operations position to request exclusion from slot allocation of such flights.

Provided the procedure has been correctly followed, on receipt of such a message the NM shall exclude the flight from the concerned regulation. In order to maintain necessary records of such events, confirmation by fax may be required by the NM.

Flights concerned shall receive a SLC if the exclusion takes them out of all the regulations. If they are excluded from one or more regulations but still subject to another, an SRM may be sent, subject to the normal conditions governing generation of SRMs. This process can be re-iterated as and when necessary during periods as described above, but excessive use of this procedure may indicate that the TFV description is incorrect.

4.4.3. Adverse Operating Conditions at Aerodromes

Normal operating conditions at aerodromes can be affected by events such as emergencies, equipment failures and de-icing problems, which make compliance with ETOTs and CTOTs difficult. The NM may be able to minimise the impact of such events by coordinating short term modifications to the normal criteria for ETOTs and CTOTs and/or releasing individual flights by exempting them.

In situations where departures are affected by a deterioration in local operating conditions such that ETOT or CTOT cannot be met within the approved tolerance windows, the procedure described below may apply. It is designed to be in effect for an agreed 1 hour period but it can be extended if necessary.

4.4.3.1. Procedure

The tower must advise the local FMP of the problem and request a temporary increase of the normal tolerance criteria applied to ETOTs or CTOTs and/or exemption for one or more of any affected regulated aircraft. The FMP shall seek approval from the NM for any exemptions they may identify.

The NM shall analyse such requests and approve where appropriate. However, in exceptional circumstances (e.g. sector loads are already close to or at their limit) the NM shall, in coordination with the FMP, devise alternative solutions.

In the event of the NM approving the extension of the Slot Tolerance Window (STW) for regulated flights and the Departure Tolerance Window (DTW) for non-regulated flights, this modification, together with the period of application of this change shall be input in the ETFMS by the NM.

Default, minima and maxima values are:

	Default		Minima		Maxima	
	Before	After	Before	After	Before	After
DTW	15	15	0	0	30	30
STW	5	10	5	10	30	30

The start and end times of the validity period are set by default to 'clock' to 'clock + 1 hr'. The end time may be changed to anything between 'clock + 1 mn' to 'clock + 1 hr'. If necessary, the process may be repeated for further extensions to the validity period.

The NM shall log the corresponding agreement to facilitate post-operational analysis.

Departing flights from DPI-transmitting aerodromes, affected by this procedure shall have their profiles updated by the TTOTs if they fall within the new STWs and DTWs.

Updates coming from E-DPI, T-DPI, T-DPIs falling within STW shall be accepted and profile updated. Should the updates bring take off time after STW, the ETFMS shall consider it as DLA message and may recalculate the CTOT.

T-DPIs bringing the flight before STW will be taken as No slot before that time. The flight should not be forced before that time.

A-DPI bringing the flight outside STW shall be rejected.

In the event of a significant drop of departure capacity at a CDM airport (e.g. single RWY ops, bad weather operations, etc.) the FMP in charge shall inform the NM about the specific deterioration in service provision and identify the problems they are encountering.

Note: When the flights are forced in the departure sequence by the tower, a T-DPIs message with the updated TTOT is triggered by the CDM process.

4.4.3.2. Application of Minimum Departure Intervals (MDIs)

The use of MDIs may be triggered either by ATC or FMP but in any case the FMP should be informed. The following guidance on the application of MDIs has been adopted:

a) MDIs will not be applied on a strategic basis.

b) Tactical MDI may be applied only when:

- **i.** A sector becomes excessively busy.
- **ii.** Capacity is suddenly reduced (because of equipment failure, weather, etc.).

c) Tactical MDIs would be applied at a rate of no greater than 1 per 5 minutes for a limited period in the order of **30 minutes** after which ATFCM measures should be applied.

d) ATC at the departure airfield will start up and taxi the flight at a time judged to achieve the CTOT and MDI. If at the planning stage the airfield controller determines the flight is unable to achieve the CTOT/MDI, they should then seek guidance from their FMP.

e) If the flight is already taxiing and a more penalising MDI is imposed, (i.e. delaying the flight beyond the CTOT) guidance must also be sought from the responsible FMP.

Note: For d) and e) the FMP should contact the NM to agree a suitable network solution, where appropriate.

4.4.3.3. Miles in Trail

Miles in trail is a procedure whereby a controller instructs a stream of traffic at or climbing to the same cruising flight level to maintain the same speed/mach number. This can be a short-term measure used as a long-term procedure between adjacent ATC units and is done to help achieve a reduction in sector complexity, thus removing the need to apply a regulation.

4.4.4. Slot Swapping

The ETFMS slot swapping functionality is used to swap flights when requested by aircraft operators and also to improve another flight if an aircraft operator requests a slot extension (i.e. instead of forcing the flight).

Procedure

The procedure should be applied when a request for slot swapping is received from an aircraft operator or FMP

Aircraft operators shall only request swaps concerning flights for which they are the responsible operator (OPR field) or where there is a formal agreement between both aircraft operators for swaps to take place between their flights.

4.4.4.1. Conditions

- A request for a slot swap from an AO must be submitted via the E-Helpdesk
- The NMOC shall not check whether flights are from the same operator or where there is a formal agreement between both aircraft operators for swaps to take place between the concerned operators.
- FMPs can request swaps for two flights of the same aircraft operator or, during critical events at airports, also for different aircraft operators;
- The two concerned flights must be in status slot issued;
- The two flights must be subject to the same most penalising regulation;
- Only one swap per flight shall be accepted, except critical events (see CHAMAN)

4.4.5. ATFCM Exemptions

The following flights are exempted from ATFCM slot allocation:

a) flights carrying Head of State or equivalent status [STS/HEAD].

b) flights conducting search and rescue operations [STS/SAR].

c) flights authorised by the relevant States Authorities to include in the flight plan [STS/ATFMX].

d) flights carrying a life-critical emergency evacuation [STS/MEDEVAC].

e) Flights engaged in fire-fighting [STS/FFR]

Note These exemption designators shall only be used with the proper authority. Any wrongful use of these designators to avoid flow regulation shall be regarded by the relevant states as a serious breach of procedure and shall be dealt with accordingly.

4.4.5.1. FPL Exempted

4.4.5.1.1. General

The insertion of an STS/… indicator in Item 18 of a flight plan identifies that that flight may require special handling. This indicator is intended for use by all parties that may have to handle that flight.

Only STS/HEAD; STS/SAR; STS/MEDEVAC, STS/FFR and STS/ATFMX will gain automatic exemption from ATFCM slot allocation[2].

4.4.5.1.2. NM Procedure

If the NM receives a call from an AO requesting approval for STS/ATFMX, the NM shall refer the caller to the relevant national AIP to find the appropriate office, or to the FMP, if such an office has not been nominated or is unavailable.

If the NM receives a call from an AO or other agency concerning a STS/HOSP flight which has a delay and where the NM is advised that the flight is now critical and needs to depart ASAP, then the NM may exempt the flight manually after checking the load and, if necessary, contact the concerned FMP to seek their approval.

Each month, the data on all flights using STS/… indicators are sent to states for analysis. It is expected that follow up action will be taken where evidence shows that there has been a misuse of this important facility.

4.4.5.2. Flow Exemption

A flight will be exempted if it belongs to a flow that is exempted from the regulation by the traffic volume definition.

4.4.5.3. Out of Area

A flight will be exempted if departing from outside the ATFCM area and ATFCM adjacent area.

4.4.5.4. Flight Already Airborne

When a flight is already airborne when the regulation is created, or due to FSA/CPR a flight is pushed into an active regulation the flight will be forced into that regulation without delay.

4.4.6. Network Briefings

Briefing on critical situations or traffic load imbalance in the network is carried out through the NOP portal Headline News.

4.5. Post-event Analysis

Post-event analysis includes an evaluation of the ATFCM Daily Plan (**ADP**) execution and analysis of incidents, in order to learn from the actions reported and make appropriate improvements in the future.

Evaluation of the ADP execution is conducted by the NM Tactical Network Coordinator, Network manager and tactical flow management staff throughout the day of tactical operation and is normally finalised and dispatched within the NM on the next day. The post-event evaluation includes analysis of the efficiency of items such as regulations, sector loads and configurations, scenarios, FL capping, re-route advice.

2 For details on obtaining and using STS/ATFMX refer to ATFCM Users Manual.

To resolve issues identified in the post-event analysis a number of follow-up actions are carried out both within the NM and, where relevant, together with the FMPs. This includes a basic report on the previous days of operations to the 0900 daily briefing, where events are highlighted, further feedback given and actions allocated.

More detailed analysis is carried out: the results including any recommendations for change will be presented to the weekly operations meeting where necessary actions are allocated by operations management.

Post operations also inputs to the OMR department to enable a full report to be produced following events or at regular intervals (NMPB, NOR)

Analysis is performed on an ad hoc basis when required by other parts of NMD.

5. ATFCM DELAY ATTRIBUTION

Alternative delay attribution, i.e. the attribution of all or a percentage of delay to a reference location other than that where the regulation is applied has been identified as a contributor for optimising network performance and a mitigation strategy for reducing excessive delays.

For the purposes of this procedure attribution of **all** delay to a traffic volume set of an FMP other than that where the regulation is applied shall be known as Case 1a

Attribution of **a percentage** of delay to a traffic volume set other than that where the regulation is applied shall be known as Case 1b

The mechanism may also be used to assess, in a post operations phase, the amount of delay generated where one ATS unit has been obliged to accept or has accepted a significant increase in traffic directly generating delays due to a chronic short term lack of capacity in an adjacent unit due to factors such as industrial action.

For the purposes of this procedure this post operations assessment shall be known as Case 2.

NM systems are currently capable of assigning the total delay from one ATFM regulation to another reference location. There is currently no system supported means of assigning a percentage of delay to another unit, or of adjusting official records of delay in a post operations phase.

This procedure defines the processes to be followed by the NM and concerned ANSPs in the application of the procedures.

Case 1a combines both the application of the ATFCM measures and the delay attribution before the event.

The operational application of Case 1b may also be executed in advance. However, the NM shall produce (via the NMD Performance and Monitoring Unit) reports assessing the appropriate delay allocation where Cases 1b and 2 have been applied and could be applicable. Such reports shall be included in the monthly Network Operations report.

5.1. CASE 1a

5.1.1. CONDITIONS FOR APPLICATION OF CASE 1a

The following conditions shall be met before use of the procedure

1. Applicable only for ATFCM situations that have been identified and agreed by CDM in the strategic ATFCM phase by the **ATFCM managers of the ANSPs** concerned. Applicable scenarios shall be published in advance on the NOP. This CDM activity can take place from several months to a few days in advance of the scenario activation.
2. Used only when the scenario is expected to generate delay in the on-load area; and where no other delay generating ATFCM measures were anticipated in the pre-tactical phase for this on-load area.
3. Decision for actual use made at latest before end of Pre-Tactical phase (publication of D-1 plan) via the normal CDM process.
4. To be used only when prior assessment by NM operations has shown that overall delay will be reduced and the CDM process considers that there is an overall network benefit taking into account penalties to AOs in terms of additional mileage, level caps, etc..
5. The results of simulations carried out in the strategic or pre-tactical phases to evaluate scenario shall be stored for subsequent validation and analysis.
6. All measures involved, including that for the on-loaded sector, must be applied at D-1 (otherwise the rerouted flights will be adversely disrupted)

5.1.2. PROCEDURE FOR APPLICATION IN PRE-TACTICAL PHASE

1. Measure the delay in the offloaded and the on-loaded sectors without the application of any scenarios (retain a copy of the ATFCM Situation Display for delay recording and post operations purposes)
2. Reroute the flights captured by the scenario
3. Measure the new delay in the offloaded and the on-loaded sectors (retain a copy of the ATFCM Situation Display for delay recording and post op. purposes)
4. Establish that the overall delay in 3) is less than in 1) above
5. Share and agree the results with the affected FMPs
6. Agree application of

- regulation for sector to be offloaded,
- regulation for sector to be on-loaded and
- scenario to move traffic from offloaded into on-loaded sector (Note: to ensure stability, all measures must be applied at D-1)

5.1.3. MEASUREMENT OF DELAY SHARING

All delay caused in the on-loaded sector is re-attributed to the causal (offloaded) sector.

5.1.4. MONITORING DURING TACTICAL OPERATIONS

Dynamic, active monitoring of on-loaded sector is required to mitigate all delays and in particular it must be ensured that the rerouted flights do not suffer from disproportionate delay

Dynamic active monitoring of the offloaded sector is also required to mitigate delay. In the event that the capacity problem is solved then consideration must be given to cancellation of the scenario and offering the rerouted flights the option of using the original route

Measures may be suspended in the tactical phase following a CDM process with affected FMPs where it is detected that the potential network benefit is not being attained or where the on-loaded area is no longer able to accept the additional traffic.

5.2. CASE 1b

5.2.1. CONDITIONS FOR APPLICATION OF CASE 1b

Same conditions as Case 1a)

5.2.2. PROCEDURE FOR APPLICATION AT D-1

Same conditions as Case 1a)

5.2.3. MEASUREMENT OF DELAY SHARING

Pre-tactical and post operations assessments of the amount of additional delay caused in the on-loaded sector are carried out by the NM as follows:

1. Assess the additional delay in the on-loaded sector (e.g. 400 minutes)
2. Divide by the total delay in the on-loaded sector (e.g. 1100 minutes)
3. The result is expressed as a percentage 400/1100 = 36%
4. In this case the 36% additional delay is assessed as being due to the causal sector, up to a maximum of 400 minutes

Post operations assessment reports of the proportion of additional delay in the on-loaded are and the delay saving in the off-loaded area shall be published by the NM in the monthly Network Operations reports.

5.2.4. MONITORING DURING TACTICAL OPERATIONS

Same conditions as Case 1a

5.3. CASE 2

5.3.1. CONDITIONS FOR APPLICATION OF CASE 2

Normal strategic and pre-tactical CDM processes apply in agreeing the pre-tactical plan that attempts to optimise network performance including consideration of off-load routes that mitigate severe delays that could otherwise be expected due to a chronic lack of capacity in a particular area.

5.3.2. PROCEDURE FOR APPLICATION AT D-1

Normal pre-tactical CDM processes apply in agreeing the pre-tactical plan that attempts to optimise network performance including consideration of off-load routes that mitigate severe delays that could otherwise be expected due to a chronic lack of capacity in a particular area.

5.3.3. MEASUREMENT OF DELAY SHARING

The mechanism may also be used to assess, in a post operations phase, the amount of delay generated where one ATS unit has been obliged to accept or has accepted a significant increase in traffic directly generating delays due to a chronic short term lack of capacity in an adjacent unit due to factors such as industrial action.

Post operations assessments of the amount of additional delay caused in the on-loaded sector are carried out by the NM as follows:

1. Identify the additional traffic in the on-loaded area
2. Assess the additional delay in the on-loaded sector (e.g. 400 minutes)
3. Divide by the total delay in the on-loaded sector (e.g. 1100 minutes)
4. The result is expressed as a percentage 400/1100 = 36%
5. In this case the 36% additional delay is assessed as being due to the causal sector, up to a maximum of 400 minutes

Post operations assessment reports of the proportion of additional delay in the on-loaded are and the delay saving in the off-loaded area shall be published by the NM in the monthly Network Operations reports.

5.3.4. MONITORING DURING TACTICAL OPERATIONS

Same conditions as Case 1a

6. ATFCM AT AIRPORT

6.1. Departure Time Compliance

6.1.1. Flights with CTOT

Aircraft operators and ATC are jointly responsible for achieving CTOT compliance at departure aerodromes.

In order to comply with a CTOT, aircraft operators need to plan the departure of a flight so that the aircraft will be ready for start up in sufficient time to comply with a CTOT taking into account the taxi time.

AOs shall inform themselves of and adhere to:

a) General ATFCM procedures including flight plan filing, strategic ATFCM measures and message exchange requirements.

and

b) Current ATFCM measures (e.g. specific measures applicable on the day in question, such as ATFCM slot or flight suspension).

ATC is responsible for CTOT compliance monitoring at departure aerodromes. Whereas the exact procedures to be followed will depend on the way that ATS is organised at each aerodrome, the following requirements shall apply in all cases:

a) States shall ensure that CTOT, if applicable, be included as part of the ATC clearance. ATC shall take account of an applicable slot or flight suspension when a clearance is issued.

b) ATC units responsible for CTOT compliance monitoring shall be provided with the necessary information concerning the ATFCM measures in force and CTOTs allocated.

c) ATC shall provide all possible assistance to AOs to meet CTOT or to coordinate a revised CTOT.

d) A slot tolerance (-5' to +10') is available to ATC for which the aircraft must not depart outside.

e) ATC may deny start up clearance to a flight unable to meet its CTOT until coordination with the ATFCM units concerned has been effected and a revised CTOT issued.

6.1.2. EOBT Compliance - Flight Activation Monitoring (FAM)

In the areas in which Correlated Position Reports (CPRs) are received and FAM is enabled, the flights, which are expected to be airborne but are not actually reported as airborne at the expected time will be regularly 'shifted'. When a pre-determined maximum time shift is reached, any such flight will then be suspended and will receive an FLS. This time shift is currently set at 30 or 120 minutes depending on the flying time from ADEP to first FAM-enabled area.

In normal circumstances such a flight shall not receive a departure clearance (for more details on FAM refer to the ATFCM Users Manual).

An FMP may request the NM to suspend FAM only for technical reasons.

6.2. Airport Parameters

In order to ease airport operations and to provide an accurate picture of the situation, both the taxi time and runway configuration parameters can be amended for each individual airport.

6.2.1. Modification of Taxi time

The taxi time at aerodromes can be changed on the day of operation. The use of this facility is expected to be limited to major aerodromes only to better reflect real taxi time between off block and take off at the airport. This feature provides a method by which certain aerodrome airside operating problems can be addressed without the need to reduce monitoring value or to request an increase of the slot window beyond the existing -5 +10 minutes around the CTOT.

The taxi time can be modified in the ETFMS for a given time period. For example:

Start Time	End Time	Direction	Role	Taxi	TIS	TRS
0600	1100	02	Global	10	10	05
1100	1500	02	Global	25	15	10

A modification of the taxi time will modify all flights having their EOBT inside the period. Outside of this period the default values, as implemented in the NM ENV system, apply.

The support of the FMP/TWR is required in order to have the information on the change of taxi time as early as possible. Ideally, there should be a minimum of two hours notice of any changes. There are two possible changes to taxi time: increase or decrease.

In the event where the taxi time is increased some issued slots may be recalculated and a few short notices SRMs issued, normally giving greater delay. If the taxi time is decreased some flights may get improvements.

During the period between the change in the taxi time and the start of re-calculated slots being generated, the NM may approve an extension of the CTOT for any flight with a problem caused by the change of taxi time.

A modification of taxi time triggers an automatic AIM to inform the aircraft operators of the modification.

6.2.2. Modification of SID/STAR

When the RWY configuration in ETFMS is changed the system will recalculate the profiles of affected flights. If the configuration for the GLOBAL is changed, **both** arrival and departure will be affected (recalculated). Consequently if the configuration is changed **only** for departure only the departing flights are going to be recalculated.

It works in the same way for the arrivals.

There is a time parameter in the system. The default value for the time parameter is 30 minutes in the future. The time parameter can be changed by the NM according to the needs. The change of configuration will result in recalculation of affected flights and this recalculation will affect certain counts.

6.3. FLS Triggered by DPI-Transmitting Aerodromes

Airports that provide accurate Take-Off-Time (TTOTs) to the NM via DPI messages (e.g. CDM airports) may also occasionally send Cancel DPI (C-DPI) messages. This is done in case when there is an interruption in the departure/turn-around process for a particular flight and the new Off-Block-Time is not yet known. The C-DPI message will result in an FLS being sent by ETFMS

The flight will be de-suspended at reception of a DLA/CHG updating the EOBT or a new DPI message triggered by a TOBT update. An A-DPI message will also de-suspend the flight when suspension is due to the reception of a C-DPI. The AO is expected to send a DLA/CHG or communicate the updated TOBT with the A-CDM platform. The message will be followed by a SAM (indicating the CTOT) or a DES which indicates the departure requirements. If the flight has already departed, the first received ATC message (DEP/FSA) or the first received CPR will automatically de-suspend the flight.

6.4. Airport Capacity Constraints

ATFCM procedures are being developed to assist in management of airport operations and in particular management of critical events. Best practices identified so far are set out below.

	Best Practice	Pros	Cons
Pre-Tactical Phase	A regulation for arrivals starting the day before as a preventive measure with a 'standard' rate allows a better and earlier capture of all traffic in case of anticipated bad weather.	Better capture of traffic. Better use of pre-tactical planning.	Can become systematic.
	The use of traffic volume exempting flights with more than a certain flying time to destination (time around 2 hours) would avoid penalising unnecessarily, medium haul traffic.	Active management of flight list depending on the time band. Use of cherry picking (i.e. decreasing manually delay of some flights).	No cherry picking.
Tactical Phase	Start with a lower ARR capacity, increase capacity only if sure the new value will stay for a longer period or even improve, in the meantime use cherry picking.	Stability to AOs. Equitable.	
	It is still possible in the early morning (around 0300 for a regulation starting at 0600) to revise the strategy according to more accurate MET forecast. Trigger to consider more accurate data.	Active management of regulation.	
	In case of weather deterioration a decrease of arrival rate for a long period should be preferred to a short application of a 0 rate.	Stability to AOs.	Excessive holding.
	The accuracy and reliability of the MET forecast should be monitored and questions reported back to them when definitely wrong. MET should eventually participate in those debriefings.	Improved accuracy.	Forecast may not materialise [lack of local MET office at EGLL].
	Despite the fact that fog was forecast the evening before, the general opinion is that it is not reliable enough to take a decision on that. The 0400 situation is much more precise.	Improved accuracy	Forecast may not materialise
	It is necessary to check the situation of the departing traffic which if delayed would cause a problem for arrivals because of lack of stands.	Minimise departure delays. More effective use of Aerodrome capacity.	Aerodrome congestion.
	When a temporary improvement or degradation is forecasted it is recommended to cherry pick a few flights (short-haul) to advance or delay them to reach the new temporary landing rate. It will avoid a complete recalculation of all slots and consequent disruption for many AOs.	Stability to all AOs.	Inequity.

INTENTIONALLY LEFT BLANK

7. PROCEDURES IN UNUSUAL CIRCUMSTANCES

Flights subject to unusual circumstances

All flights, including flights exempted from ATFCM slot allocation, will be affected by the measures applied to handle unusual situations, except flights departing from outside the ATFCM area and from outside the ATFCM adjacent area.

The latest update of the NM Area of Responsibility may be found on the EUROCONTROL website

7.1. Low Visibility Procedures

Aerodromes that wish to continue operating in poor visibility or are available for instrument approaches in conditions of low cloud are required to develop and maintain LVPs.

Effective management of low visibility conditions at aerodromes within their area of responsibility depends on the active involvement of FMPs concerned. Only in specific, clearly identified cases (e.g. slot swapping) the NM may be in dialogue directly with a local partner at the airport.

Definition

Low Visibility Procedures (LVP) are procedures applied at an aerodrome for the purpose of ensuring safe operations during Category II and III approaches and Low Visibility Take-offs. (JAR-OPS 1, paragraph 1.435 (a) (2))

Category II and III approaches are discussed under Precision Approach.

A low visibility take-off (LVTO) is a take-off where the RVR is less than 400 m (JAR-OPS 1, paragraph 1.435 (a) (3)).

LVP is the combination of CAT II/III operations (BKN/OVC 200ft or below, or sky obscured, or RVR below 600m) and runway safeguarding.

7.1.1. Management of Low Visibility Situations

Whenever low visibility conditions are forecast for an aerodrome in the area of responsibility of a particular FMP and where such conditions will reduce the capacity so as to require ATFCM measures to be applied either to the inbound traffic, to outbound traffic, or both, then these procedures shall be used.

Close coordination between the TWR, FMP and the NM is necessary whenever low visibility conditions at one of the aerodromes concerned are forecast or occur. In that case ATC at the aerodrome shall advise the FMP and agree the measures to be considered for application if the forecast is fulfilled or if actual weather requires them. This also permits the NM to issue a low visibility alert message to warn the AOs of the possible application of ATFCM measures and to insert their RVR minima in field 18 of the FPL or to send an FCM with the minima.

At this stage, ATC at the aerodrome should liaise closely with the FMP, continually updating them on the forecast and actual conditions. The FMP should keep the NM informed if the likelihood of requiring ATFCM measures, increases or decreases.

If actual conditions worsen, ATC at the aerodrome and the FMP shall coordinate and agree on what measures are required and in the case of an ATFCM regulation with XCD being used, what RVR minima to set.

7.1.2. FMP Responsibilities

a) Monitor actual and forecast weather for the aerodrome and notify the NM of potential problems arising thereof.

b) Monitor airborne holding capacity.

c) Analyse inbound demand and examine whether it is worth regulating it (e.g. how many flights can be 'caught' by the low visibility regulation).

d) Monitor aerodrome capability.

e) Analyse departure demand.

f) Analyse existing regulations.

7.1.2.1. Possible Situations

There are three main possibilities: do nothing, apply a regulation without XCD and apply regulation with XCD.

a) The '**Do nothing**' option is available if, despite the demand, the capacity is still sufficient and enough airborne holding is available to accommodate any potential holding.

Note: The risk of the 'Do nothing' or the implementation of measures too late, is that traffic will be held in the vicinity of the aerodrome and when the holding stacks become full, en-route holding and possible refusal of aircraft from adjacent ACCs can occur. If this happens, it can be almost impossible to recover efficiently. The only possible action is to apply measure(s) immediately with a rate of 0/60, only gradually increasing the rate as the situation stabilises.

b) The FMP, after coordination with the TWRs is aware of the achievable landing rate for inbound traffic RVR capabilities. Then a **regulation without XCD** can be effective, as confirmation is really not required.

Note: Caution should be exercised if low visibility conditions are forecast to exist for a limited time as forecasts can be wrong! Apply a simple regulation just as a precautionary action if any doubt exists. It is easier to apply and improve /cancel if the situation improves than to apply when it is too late and the aircraft are already airborne.

c) If the landing capabilities of the demand are not known or thought to be largely made up of aircraft that are likely not to meet the expected RVR, then a **regulation with XCD** can be more effective.

Note: The role of the FMP is essential in these conditions as the NM is effectively 'blind' and must rely on continuous assessment of the traffic situation by the FMP in order to adjust in real time.

7.1.2.2. RVR Value Management

The RVR used in the case of a regulation with XCD could not be directly related to the actual RVR at the aerodrome. It is a figure that could be used to filter the traffic which can be permitted to proceed.

In low visibility conditions it is important not to react too quickly to any changes in the meteorological conditions. RVR at an aerodrome can change many times in an hour and no attempt should be made to change the RVR in the regulation with XCD to match these changes.

7.1.3. NM Responsibilities

When necessary a regulation with XCD is implemented as follows:

A single regulation will normally be created, for the required AD ARR TFV:

- with XCD and a rate for the low visibility period, and
- without XCD and a rate as necessary after the reopening.

These rates are to be coordinated with the FMP.

There are three main cases indicating how flights can be affected by this XCD-regulation:

Case 1:

All flights affected by the XCD-regulation that have not submitted RVR in FCM or flight plan are suspended.

Note: Exempted flights will also receive an FLS (except long-haul flights). If, later, the RVR is known and sufficient, a DES will be sent or, if it is insufficient, a SAM will be sent.

Case 2:

All flights affected by the XCD-regulation that submitted RVR in FCM or flight plan which are not compliant with the requirement, will be delayed to arrive in the TFV after the XCD period. The SAM/SRM will include the comment: RVR CRITERIA NOT MET.

Note: Exempted flights will receive a SAM in order to arrive outside the XCD period. If, later, the RVR becomes sufficient an SLC will be sent.

Case 3:

All flights affected by the XCD-regulation having replied with an FCM giving an RVR value which is compliant to the one that is stated in the XCD, will receive a SAM/SRM message, in order to get a slot for landing during the Low Visibility period. The same will happen when a flight has previously confirmed its RVR (in FPL or by previous FCM) and is able to land.

Note: Exempted flights will not receive a SAM but will be displayed inside the XCD period with no delay.

Booking period: The FLS for suspended flights will contain a RESPBY time (clock + 20 minutes), enabling the AO to keep any present CTOT if the FCM with sufficient RVR is received by the NM in due time.

Note: In the event of ETFMS failure the booking period is extended to ETFMS recovery time +30 minutes.

7.2. Non-availability of Aerodrome or Airspace

In the event of non-availability of aerodrome or airspace the NM will assess the duration and nature of the non-availability based on the information received and then take appropriate actions.

7.2.1. Non-availability of Aerodrome

In the event of the non-availability of an aerodrome using NM Exceptional Conditions regulation (XCD), FPLs will be accepted in the IFPS and then dealt with by the ETFMS accordingly. The NM will either suspend flights in the event of a long non-availability (more than one hour), or delay flights to arrive or depart when the aerodrome is available.

7.2.1.1. Non-availability of Aerodrome for a short period (normally up to 1 hr)

A single regulation could be created upon FMPs request, for the required TFV with XCD and FCM not mandatory and a rate 0 for the non-availability period.

After the non-availability period, the regulation should continue without Exceptional Conditions with a rate coordinated with FMP concerned.

All flights, including the exempted flights (but not the long haul), affected by the regulation during the non-availability will be delayed in order to arrive after the re-opening time.

The comment in the SAM/SRM will be: **'AERODROME OR AIRSPACE OR POINT NOT AVAILABLE'**.

Note: Exempted flights will receive a SAM.

7.2.1.2. Non-availability of Aerodrome for a long period of time (normally more than 1 hr)

A single regulation should be created, for the required TFV with XCD and FCM mandatory and a rate 0 for the non-availability period.

After the non-availability period the regulation should continue without Exceptional Conditions with a rate coordinated with FMP concerned.

All flights, including the exempted flights (but not the long haul), affected by the regulation during the non-availability are suspended and FLS sent.

Note: Exempted flights (but not long haul) will receive an FLS.

AOs must send an FCM if the flight is still operating. They will receive a SAM/SRM in order to arrive after the reopening time. The SAM/SRM will include the comment: **'AERODROME OR AIRSPACE OR POINT NOT AVAILABLE'.**

Note: Exempted flights (but not long haul) will receive a SAM.

Flights not confirming will remain suspended.

7.2.2. Non-availability of Airspace

In the event of an airspace non-availability the NM will:

1. Close the airspace in the NM Environment database and consequently reject all relevant FPLs filed afterwards and suspend relevant FPLs filed before the airspace non-availability as a result of FPL revalidation

OR

2. Accept FPLs and regulate them in the ETFMS system as in case of an aerodrome non-availability.

Note: The IFPS Revalidation process is validating flight plans up to 1 hour prior to the estimated off blocks time. In case of an ad hoc airspace non-availability request, the same principle as in aerodrome non-availability shall be applied.

7.3. Strikes

In the event of strikes the NM procedures are similar to those for non-availability of aerodrome or airspace and are adapted to specific local conditions.

7.4. De-icing Conditions

7.4.1. General

The management of de-icing conditions at aerodromes within an FMP's area of responsibility requires close coordination between those involved in de-icing, ATC and ATFCM.

FMPs and ATC at the aerodrome shall agree on any changes to the taxi time for the aerodrome, and ensure that the changes are notified to the NM at least two hours prior to the likely implementation of de-icing procedures for that aerodrome. Modifying the taxi time parameters in ETFMS ensures that any additional time for de-icing at the aerodrome is absorbed by the taxi time and not generated as an ATC delay. It also offers ATC and the AO greater flexibility in such conditions.

It is expected that proper coordination is in place and that the taxi time reflects the conditions.

The NM will not normally give additional slot tolerance increases to flights departing aerodromes where de-icing procedures are in force. Only when the situation at a particular aerodrome becomes unmanageable due to unforeseen events such as the breakdown of de-icing rigs, will consideration be given to granting slot extensions of up to 10 minutes (—5 to +20) for a maximum period of 1 hour.

If the problem is foreseen to extend beyond 1 hour then a departure regulation should be applied with the monitoring value which can be accepted.

7.4.2. CHAMAN Procedure

In order to improve the accuracy of the NM data and to overcome the problems associated with slot compliance during periods of adverse operating conditions at aerodromes, a specific procedure has been created called Chaotic Situation Management (**CHAMAN**). This procedure allows greater flexibility to the FMP/TWR giving them the freedom to manage the departure order based on what they can achieve, taking into account local conditions.

CHAMAN is only available at specific aerodromes. Each aerodrome qualifying for the procedure must have agreed with the NM a detailed plan and instituted CDM procedures with which all parties concerned (AOs, airports, ATCs, handling agents etc., …) have agreed to comply.

7.5. ATFCM Contingency Operations

Actions to be taken in the event of a major failure of a component of the ATS or ATFCM service which would result in significant reductions in capacity and/or major disruption to traffic flows are covered, respectively, by ACC/FMP and NM contingency plans.

7.5.1. ACC/FMP Contingency

FMPs shall have pre-defined contingency plans detailing the configurations, capacities and strategies in each critical event for their area of responsibility, in order to enable the NM to assist the FMP in contingency operation.

Note: A standard template for ACC contingency plans is available at **Annex B.**

The FMP shall coordinate their contingency plans with the NM. The FMP is responsible for ensuring such plans are kept updated and notified to the NM.

In the event of a failure requiring contingency action, the FMP Controller will initiate coordination with the NM to implement pre-planned contingency measures.

During the application of contingency measures, the FMP controller shall keep the NM up to date with all data and information required so that ATFCM measures can be modified to match the changing situation and in order to keep any other concerned parties informed via AIMs.

7.5.2. NM ETFMS Contingency

In the event of the ETFMS failure, a number of appropriate procedures have been put in place to minimise the impact on NM customers.

For each contingency procedure instructions will be issued by the NM. In order to permit an effective and orderly resumption of slot allocation by the ETFMS following recovery, flight plan and flight plan update messages will continue to be sent to the IFPS throughout the whole period of operation of contingency plan.

7.5.2.1. ATFCM Procedural Contingency

If the ETFMS fails, the ATFCM procedural contingency will be initiated (**see Annex A**). This is a phased operation, whereby nominated airports will apply predetermined departure intervals. In this case AOs concerned may expect high delays. Flights departing from non-nominated airfields are not affected by the ATFCM procedural contingency plan.

7.5.3. NM Building Evacuation

In the event where the NM facilities at Haren have to be evacuated, the NM operations would be moved to a contingency site. If this occurs, procedural contingency will be in force until the NM staff and the system become available.

8. CIFLO OPERATIONAL PROCEDURES

8.1. Scope

The aim of this section is to provide general guidelines for FMP staff on how to use the CHMI for Flow Management Positions (**CIFLO**) in Pre-Tactical and Tactical phases and post-event analysis.

The CIFLO is normally used in accordance with local arrangements for:

- Monitoring traffic loads.
- (de) collapsing sectors.
- Staff management.
- Providing briefing to ATC staff and AOs.
- Updating PREDICT and ETFMS parameters.
- Accessing PREDICT and ETFMS published simulations.

Note: The protected NOP for authorised FMPs may be used to send regulation proposals to the NM.

8.2. ETFMS, PREDICT and Published Simulation Read/Write Access for FMPs

The read/write access enables FMPs to update the following parameters for a specific day of operations in PREDICT, ETFMS or published simulations:

1. Capacities.
2. Traffic volume activations.
3. Configurations (via OPTICON or directly).
4. RWY configurations (departure RWY, taxi time for departure, arrival RWY).
5. Occupancy Traffic Monitoring Values (OTMV)

All the above parameters can be updated via the PREDICT and ATFCM and published simulation CHMI. RWY configurations may also be updated via the NOP portal.

The updates can only be applicable for a period of a specific day of operations and do not affect the values stored in ENV.

Updates to these parameters of the ETFMS shall always be made directly by the FMP via CIFLO.

Updates to these parameters of the PREDICT should be done via CIFLO or via telephone/e-mail/fax. Whichever method is used shall be applied consistently by that FMP, but it must be noted that updates to the OTMV can only be updated via read/write access for FMPs.

Note: Read/write access will be granted to any TWR upon FMP request.

Note: The protected NOP for authorised FMPs may be used to send regulation proposals to the NM.

8.2.1. FMP Access Phases

FMP access to the read/write function shall normally be divided in 2 phases:

1. Implementation Phase

This phase is limited to an agreed initial period of maximum 6 weeks to allow for training of all FMP staff. During this phase, updates to the ETFMS and PREDICT may be carried out via CIFLO by those staff who have qualified on it and via telephone/e-mail/fax for those who have not.

2. Operational Phase

During this phase, updates to the ETFMS are done only via CIFLO. Updates to PREDICT are done via CIFLO and/or via telephone/e-mail/fax in a consistent manner across the FMP.

8.3. The Pre-Tactical Phase

8.3.1. PREDICT

FMPs should access PREDICT and view the draft ADP. Any FMP wishing to discuss any part of the Plan, should contact the NMOC NMC between 12:30 and 13:30 UTC in winter time (1 hour earlier in summer time).

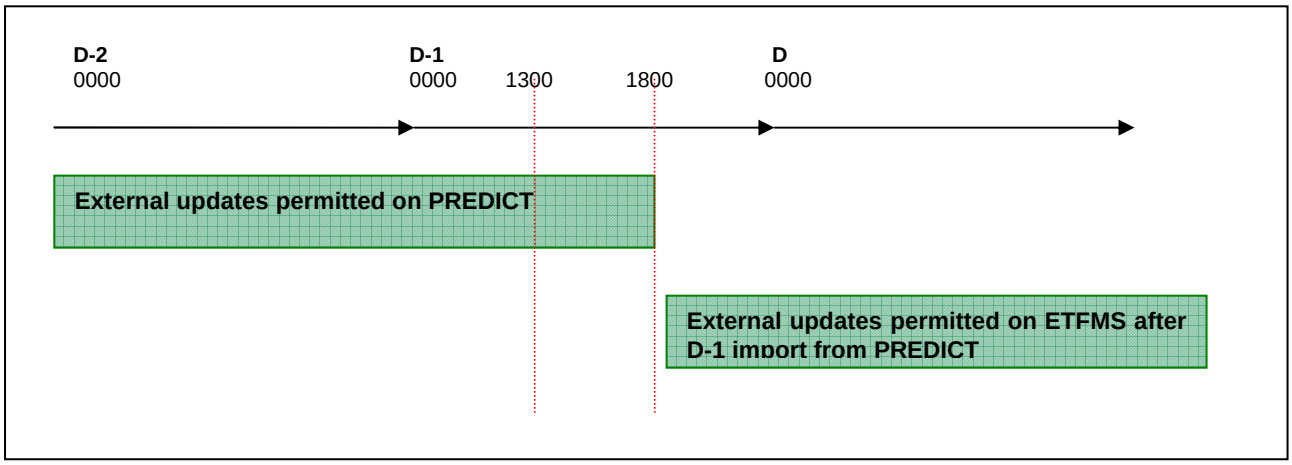
Application / Predict / ATM Messages / ADP List

Check the Monitor via ***Application / Predict / Traffic/Monitor / FMP Monitor***[3]

Analyses to do:

- Regulation has been implemented but the TFV shows green.
- If orange or red is showing look at the configuration *(**Application / Predict / Traffic / Monitor / ATC Configuration**)* to see if the correct one is implemented.
- Consider implementation of ATFCM measures.

8.3.2. Updating PREDICT



Newly received system updates will be notified to NMC by a 'Show unacknowledged measures' button appearing on the Predict HMI. When the button is pressed, the scenario management display will open to display the updates. The notifications may be acknowledged or alternatively the changes may be undone and removed from Predict – only after coordination with the FMP.

1) From 0000 D-6 to D-1 1600/1700 UTC (summer/winter time), introduce the updates directly into the Predict system via the CHMI. For inputs made before 1100/1200 UTC (summer/winter time), NMC may contact FMPs via telephone to discuss these inputs. In any case FMPs are expected to coordinate all major changes that would significantly impact the pre-tactical plan

2) NMC shall import the D-1 into ETFMS after 1600/1700 UTC (summer/winter time),, therefore, after the D-1 1600/1700 UTC (summer/winter time), threshold, updates are made in the ETFMS via CHMI: application/ATFCM. FMPs shall contact tactical operations for any major changes that would significantly impact the pre-tactical plan.

The above procedures do not affect the prior working arrangements for definition of annual, seasonal or monthly configuration changes, or configuration changes made up to before D-6 0000. The existing arrangements continue for their delivery prior to D-6 via email, fax or telephone to NMC and their entry into the ENV system by the AD team.

3 In this Section CIFLO commands will be printed in ***bold italic*** characters.

8.3.2.1. How to Update

1. Capacities
   Application / Predict / Environment / Traffic Capacity / Update / Add
2. Traffic Volume Activations
   Application / Predict / Environment / Traffic Volume Activation / Update / Add
3. Configurations (via OPTICON or directly)
   Application / Predict / Traffic / Monitor / ATC Configuration Optimizer / Apply ATC Configuration Choice (= OPTICON), or
   Application / Predict / Traffic / Monitor / ATC Configuration / Update / Add (=directly)
4. RWY Configurations (departure RWY, taxi time for departure, arrival RWY)
   Application / Predict / Environment / Aerodrome Details / Update / Add
5. OTMV
   Application / Predict / Traffic / Monitor / Occupancy Traffic Monitoring Values / Add / Duration / Update / Add

8.3.3. OPTICON

OPTICON is available on CIFLO via:

Application / Predict / Traffic / Monitor / ATC Configuration Optimizer

8.3.4. Published Simulations (PREDICT)

Any FMP, with PREDICT read/write access, wishing to request a simulation should contact the NMC between 09:00 and 20:00 UTC winter time (1 hour earlier in summer time).

Received requests for simulations will be accommodated when/if NM resources are available.

A simulation is limited by its time of creation and specific purpose. It is valid only for the geographical area and period of interest.

Published simulations will be retained for a period set by the NM.

Access and update the published simulations via:

Application / Simulations

This opens up the simulations view, listing all available simulations. Select only the simulation agreed with the NM, based on the coordinated simulation name field or simulation description field.

8.3.4.1. How to Update

1. Capacities
   Application / Simulations
   Select the simulation from the list
   Environment / Traffic Capacity / Update / Add
2. Traffic Volume Activations
   Application / Simulations
   Select the simulation from the list
   Environment / Traffic Volume Activation / Update / Add
3. Configurations (via OPTICON or directly)
   Application / Simulations
   Select the simulation from the list
   Traffic / Monitor / ATC Configuration Optimizer / Apply ATC Configuration Choice *(= OPTICON), or*

Traffic / Monitor / ATC Configuration / Update / Add *(=directly)*

4. RWY Configurations (departure RWY, taxi time for departure, arrival RWY)
   Application / Simulations
   Select the simulation from the list
   Environment / Aerodrome Details / Update / Add

5. OTMV
   Application / Simulations
   Select the simulation from the list
   Traffic / Monitor / Occupancy Traffic Monitoring Values / Add / Duration / Update / Add

8.3.5. ARCHIVE

Can be used to:

- Confirm that traffic showing in PREDICT for the reference day is correct.
- See the evolution of the traffic throughout the preceding weeks.

8.4. The Tactical Phase

8.4.1. Self-briefing on ATFCM Situation

According to local instructions the FMP staff on duty should use ***Application / ATFCM*** to self-brief on the ATFCM situation in their AoR and in the European network by means of:

a) Regulation list to check regulations in force to give an idea of the situation in Europe:

Application / ATFCM / ATM Messages / ADP List

Important to check: TFV used, rate, period.

b) Read the Network News, plus other AIMs valid for the day, to see if anything will affect the situation in their AoR:

Application / ATFCM /ATM Messages / AIM List (Network News and other AIMs)

c) Configuration check to see if the correct configurations are being used:

Application / ATFCM / Traffic / Monitor / ATC Configuration

Name of your CTA

Send

d) Capacity check on all relevant TFVs:

Application / ATFCM / Environment / Traffic Capacity

8.4.2. Actual Tasks

8.4.2.1. Monitoring Situation in your AoR

Application / ATFCM / Traffic / Monitor / FMP Monitor

Name of your FMP

Send

a) Actions on different colours:

- **Green** (< 90% of monitoring value)
  no action required.
- **Yellow** (90% - 100%):
  keep in mind that the situation might deteriorate.

- **Orange** (100% - 110%)
  start preparing alternate actions, like :
  - configuration change;
  - capacity improvements (e.g. coordination with military);
  - rerouteing;
  - level capping;
  - review traffic complexity for a possible increase of monitoring value;
  - implementation of a regulation (last resort).

  The aim is to get ATFCM measures in place when the situation deteriorates.
- **Red** (> 110%)
  prepared ATFCM measures can be implemented.

b) Actions to analyse traffic:

Application / ATFCM / Traffic / Traffic Counts Hour / 20Min

The period causing a problem can be analysed further by:

- ***20 Min counts***
  To determine the start time of the regulation.
- ***Occupancy counts***
- ***Flow Counts***
  To see which flow of traffic is causing the most problems.
- ***Flight List query***
  To see if flights will really enter the traffic volume.
  To see which flights can be cherry-picked for rerouting or level capping.
  Looking at the entry times determine if traffic enters close to each other or not.
- ***Review traffic complexity for a possible increase of monitoring value***

Consider implementing ATFCM measures.

8.4.2.2. Monitoring implemented Regulations

In the monitor window go to the REGULATIONS part and:

- Watch for high delays: check if any other ATFCM measure (e.g. military coordination, level capping, etc.) can give an improvement.
- Analyse flight list for flights with delays higher than average (see Last Minute Improvement Procedure (para. 4.4.2.1.).
- Monitor occupancy counts for a possible increase of the rate in the regulation.

8.4.2.3. Updating ETFMS

From the time of transfer of the daily plan from Predict to ETFMS (D-1 after 1600/1700 UTC (summer/winter time), the FMPs may need to modify capacities, configurations, TFV activation, Taxi time and RWY configurations.

The FMPs will introduce their updates into the ETFMS system via the CHMI. However, prior telephone coordination with the NM shall be undertaken by the FMP when major or unusual changes are to be made. Changes impacting the pre-tactical plan that need to be made between the period 1600/1700 to 1930/2030 UTC (summer/winter time), shall be processed as defined in the pre-tactical procedure above.

Major changes are considered to be an increase or decrease in open sectors, low capacities.

Unusual changes are considered to be airspace closures, weather, security problems etc.

Newly received updates will be notified to the NM tactical flow management positions by a 'Show unacknowledged measures' button appearing on the ETFMS HMI. When the button is pressed, the scenario management display will open to display the updates. The notifications may be acknowledged or alternatively the changes may be undone and removed from ETFMS – only after coordination with the FMP.

8.4.2.3.1. How to Update ETFMS

1. Capacities
   Application / ATFCM / Environment / Traffic Capacity / Update / Add
2. Traffic Volume Activations
   Application / ATFCM / Environment / Traffic Volume Activation / Update / Add
3. Configurations (via OPTICON or directly)
   Application / ATFCM / Traffic / Monitor / ATC Configuration Optimizer / Apply ATC Configuration Choice (= OPTICON), or
   Application / ATFCM / Traffic / Monitor / ATC Configuration / Update / Add (=directly)
4. RWY Configurations (departure RWY, taxi time for departure, arrival RWY)
   Application / ATFCM / Environment / Aerodrome Details / Update / Add
5. OTMV
   Application / ATFCM / Traffic / Monitor / Occupancy Traffic Monitoring Values / Add / Duration / Update / Add

When the runway updates are applied from the CHMI ATFCM or NOP, the 'free slot modification tot' is set to current time plus 30 minutes, forcing CASA to keep the same slot for flights whose CTOT is before the 'free slot modification tot'.

8.4.3. Published Simulations (ATFCM)

Any FMP with ETFMS read/write access wishing to request a simulation must contact the NM FM Supervisor.

Received requests for simulations will be accommodated when/if NM resources are available.

A simulation is limited by its time of creation and specific purpose. It is valid only for the geographical area, intended audience and period of interest.

Simulations published for FMP access will be coordinated by the NM with the intended FMPs specifying:

- name given to simulation
- purpose of simulation
- applicability of simulation with reference to geographical area, traffic affected and time

Published simulations will be retained for a period set by the NM.

Access and update the published simulations via:

Application / Simulations

This opens up the simulations view, listing all available simulations. Select only the simulation agreed with the NM, based on the coordinated simulation name field or simulation description field.

8.4.3.1. How to Update

1. Capacities
   Application / Simulations
   Select the simulation from the list
   Environment / Traffic Capacity / Update / Add
2. Traffic Volume Activations
   Application / Simulations
   Select the simulation from the list based
   Environment / Traffic Volume Activation / Update / Add
3. Configurations (via OPTICON or directly)
   Application / Simulations
   Select the simulation from the list
   Traffic / Monitor / ATC Configuration Optimizer / Apply ATC Configuration Choice (= OPTICON), or
   Traffic / Monitor / ATC Configuration / Update / Add (=directly)
4. RWY Configurations (departure RWY, taxi time for departure, arrival RWY)
   Application / Simulations
   Select the simulation from the list
   Environment / Aerodrome Details / Update / Add
5. OTMV
   Application / Simulations
   Select the simulation from the list
   Traffic / Monitor / Occupancy Traffic Monitoring Values / Add / Duration / Update / Add

8.5. Post-event Analysis

8.5.1. ARCHIVE

Gives the FMP access to ATFCM data up to 24 months in the past and can be used to:

- Analyse ATFCM incidents.
- Respond to queries.
- Analyse the traffic situation in relation to staff management.

8.5.2. QUERY REPLAY

Can be used to replay any query previously executed on CIFLO. This feature is useful to recall the actual situation as it was displayed in CIFLO at the moment a decision was taken.

9. COMMUNICATIONS BETWEEN FMPS AND THE NM

The operational language for all communications between the NM and FMPs is English. All telephone calls to the NM telephone numbers that begin with +32 2 745… for calls from outside Belgium (or 02 745... for those from Belgium) are recorded for investigation purposes.

9.1. Strategic Operation

Coordination required for strategic planning will be performed at national and NM management level using bilateral, multilateral meetings, mail and/or telephones.

9.2. Pre-Tactical Operation

To reduce telephone communications, environment data, configurations, monitoring value figures or other essential data required by the NM during the Pre-Tactical period shall, wherever practical, be inserted via CIFLO (in accordance with agreed procedures) or passed by e-mail. AFTN/SITA may be used as a back-up method, using the discrete Pre-Tactical AFTN/SITA addresses.

The protected NOP for authorised FMPs may also be used to send regulation proposals to the NM.

9.3. The Tactical Operation

FMPs are allocated direct dial numbers to contact the NM. These positions are managing their airspace, and are the first point of contact for Tactical operations. FMPs should not normally contact the Central Flow Helpdesk.

Any decisions or requests for on-line ENV database changes, regulation changes, etc. or new agreed regulations, shall be supported in hard copy, normally by fax or e-mail, if so requested.

9.4. Contact Addresses/Telephone Numbers at FMP

Contact addresses & telephone numbers of individual FMPs are available in appropriate LoAs.

9.5. Contact Addresses/Telephone Numbers at NM Operations

Telephone numbers of NM Current Operations Manager, Tactical FM Supervisor and Network Manager should be used for operational coordination between FMPs and the NM.

BRUSSELS	NM CURRENT OPS MANAGER	TACTICAL FM SUPERVISOR	HELPDESK	NETWORK MANAGER
OPS TELEPHONE	(32) 2 745.19.31	(32) 2 745.19.00	(32) 2 745.19.01	(32) 2 745.19.23
OPS FAX	(32) 2 729.90.27	(32) 2 729.90.27		(32) 2 729.90.26
OPS E-MAIL	nm.current.ops.manager@eurocontrol.int	nm.fm.supervisor@eurocontrol.int		nm.nmc@ops.cfmu.eurocontrol.int
OPS AFTN	EBBDCEUW	EBBDCEUW		EBBDCEUW
OPS SITA	BRUEC7X	BRUEC7X		BRUEC7X
WORKING HOURS	H16	H24	H24	08.00 – 21.25
NOP Portal	https://www.public.nm.eurocontrol.int/PUBPORTAL/gateway/spec/index.html			

CONTINGENCY BRÉTIGNY-sur-ORGE (FRANCE)		
OPS TELEPHONE	VSC: PSTN:	(33) 1 6988 1742 (33) 1 6988 3841

INTENTIONALLY LEFT BLANK

10. INCIDENT REPORTS

For details concerning the submission of incidents to the NM see the Network Operations Handbook, Operational Problem Reporting.

INTENTIONALLY LEFT BLANK

11. REPORTING OF EVENTS IMPACTING ATC/ATFCM

Requirement

Article 6 – ATFM IR: General obligations of ATS units

4. ATS units shall notify to the central unit for ATFM through the local ATFM unit all events that may impact air traffic control capacity or air traffic demand.

Article 8 – ATFM IR: General obligations of airport managing bodies

Airport managing bodies shall notify to the central unit for ATFM, directly or through the local ATFM unit or ATS units or both, all events that may impact air traffic control capacity or air traffic demand. They shall inform the local ATFM unit and ATS units where the notification is done directly.

General

Event information is required and provided to facilitate the planning and coordination of these events at network and local level.

Information on events impacting capacity, efficiency or demand enables early identification of issues that may affect the capacity of the ATM Network as a whole, allowing the necessary ATFCM measures to be developed in due time.

The reporting channel to be used varies depending on the type of event, the location, or time when the event is reported (strategic, pre-tactical, tactical phase). Below is an overview of the main reporting channels.

11.1. Long term strategic operational planning (OPL - Operational Planning)

The long term strategic operational planning managed by the Network Manager Directorate (NMD) encompasses various areas, such as airspace design, procedures, operations performance plan and airspace simulation. For any activity or event with regard to the above the unit for operational planning should be contacted.

NMD Operational Planning

Phone: +32 2 729 3407

E-mail: stephanie.vincent@eurocontrol.int

11.2. Significant En-route ATC/ATFCM Events

Strategic Phase (more than 1 week in advance)

Advance and timely information on any event that is likely to have a significant impact on demand or capacity and to require particular ATFCM, flight planning or airspace measures should be notified well in advance to the NMD Network Operations Unit Strategic cell. Such information should be provided by the FMP manager of the ANSP concerned.

CDM coordination processes and meetings will be subsequently put in place by Network Operations to agree on necessary measures, ensure that all affected parties are well informed of the event and all associated measures via the NOP, and that a post operational analysis is carried out.

Point of Contact:

Network Operation Strategic Cell

Phone: +32 2 729 4653 / 0028

Fax: +32 2 729 028

E-mail: nm.strategic.operational.planning@eurocontrol.int

Pre-tactical Phase (from 1 week to 1 day in advance)

Updates to information on such events should be provided to the Network Management pre-tactical function during the pre-tactical phase.

Tactical Phase (less than 1 day in advance)

Updates to information on such events should be provided to the Network Management tactical function during the tactical phase.

11.3. Significant Military Events and Exercises

Military exercises/activities requiring a special reservation/segregation of airspace may have significant impact on the available routes and capacity within the European ATM network. However, by early notification of such events, advanced assessment of the likely impact, and collaborative planning to define the appropriate ATFCM measures, such events can be accommodated while minimising the effects on other airspace users.

As they are a major actor in the ATM environment, military authorities are requested to provide information on military exercises or major flight activities having an impact on the route network structure and its best use. By this, the military community will further contribute to the overall ATM progress and at the same time benefit from the increased visibility given to the need of airspace for military operations.

National military representatives at the MILHAG (Military Harmonization Group) have agreed to support the military participation in the NOP. Participating States nominated their point of contact responsible for the provision of required data. A central point of contact, responsible for the establishment and the management of data collection procedures and the coordination with the NOP management has been nominated within EUROCONTROL (see details below).

A procedure to collect information on military activities requiring airspace reservation/segregation affecting the route network structure was established in order to obtain and update relevant data.

Point of Contact:

MILO (Military Liaison Officer) Cell

Phone: +32 2 729 9844

Fax: +32 2 729 3008

E-mail: nm.milo@eurocontrol.int

11.4. Events at Airports impacting Capacity or Demand

Events impacting air traffic control capacity or air traffic demand shall be notified by airport managing bodies either directly or through the local ATFM unit or ATS unit. The main tool for the provision of strategic information is the Airport Corner tool which is an EUROCONTROL internet-based tool allowing the airport stakeholders to easily provide information at any time.

The Airport Corner covers a set of airport information relevant to the network as current and future airport capacities, local traffic forecasts, weather management info, local operational contacts as well as the “planned events” impacting capacity, efficiency or demand.

This reporting channel supports a coordinated input between ANSP and the airport operator.

For detailed information about the process and registration please contact:

Point of Contact Airport Corner:

Maria Christina Meyer

Phone: +32 2 729 3060

Fax: +32 2 729 9193

E-mail: maria-christina.meyer@eurocontrol.int

Events planned or unplanned which have not been reported already via the Airport Corner can be reported directly via:

Point of Contact:

NMD Support to Airports

Phone: +32 2 729 9840

Fax: +32 2 729 9028

E-mail: nm.airports@eurocontrol.int

Events Affecting Tactical Operation

Significant events on the day of operations are managed by the NM Network Operations. Events impacting air traffic control capacity or air traffic demand should be coordinated on the day of operations via the CFM FM Supervisor

Point of Contact:

NMD FM Supervisor

Phone: +32 2 745 1900

Fax: +32 2 729 9027

E-mail: nm.fm.supervisor@eurocontrol.int

11.5. Network Publication of Information

An overview of all events is provided via the NOP Portal. Updates and additions to the overview in the NOP Portal can be provided to the NM NOP Portal Support (nop.office@eurocontrol.int) via the nominated NOP focal points per ANSP. Information and their updates on airport events being reported via the Airport Corner will be coordinated within NM.

Time Parameters

Some events require a modification of either static or dynamic data. For major events and military exercises a pre-validation of the data is recommended, which - for instance - requires an availability of the data at least at AIRAC -49 days. For more details please contact NM Strategic Operational Planning (nm.strategic.operational.planning@eurocontrol.int).

11.6. Means of Provision of Information

Time period	NM Unit	Reporting Channel	Email Contact	Tel
Significant en-route ATC/ATFCM events				
1 – 3 years	OPL	directly	stephanie.vincent@eurocontrol.int	+ 32 2 729 3407
D -1year – D-7 days	NOS	via FMP/ATS or directly	nm.ops.support@eurocontrol.int	+32 2 729 4653/0028
Significant airport events (registered Airport Corner user)				
> D-7 days	APT	Airport Corner tool	maria-christina.meyer@eurocontrol.int	+32 2 729 3060
Significant airport events (not registered in Airport Corner)				
D -1 year – D -7 days	NOS	Via FPM/ATS or directly	nm.airports@eurocontrol.int	+32 2 729 9840
All significant events (except military events)				
D -6 days – D -1 days	NMC	Via FMPs or directly	nm.nmc@eurocontrol.int	+32 2 730 2791
Significant military events and exercises				
any	MILO	via AMC directly	nm.milo@eurocontrol.int	+32 2729 9844
Significant event during day of Operations				
Day of operations	Tactical Operations (FM Supervisor)	directly via telephone	nmocfmsupervisor@eurocontrol.int	+32 2 745 1900

12. REGULATORY REPORTING PROCESS

All reports referenced in this process description will be published on EUROCONTROL's One Sky OnLine, NMD ATFCM statistics website. The Agency website provides instructions on how to access the portal.

https://extranet.eurocontrol.int/http://onesky1.eurocontrol.int/amserver/UI/Login?gw=extranet.eurocontrol.int&org=eurocontrol

12.1. Reporting Process for ATFM IR

General Principles

There are three phases to the reporting process:

- Phase 1. Monitoring and contributing to the detection of potential problems: the NMD is responsible for producing reports on the different indicators and providing them to the accountable entity (e.g. member State, ATS unit) to inform them of their situation.
- Phase 2. Investigation on the detected problems: the accountable entity is responsible with support provided by the NMD.
- Phase 3. Reporting: the accountable entity is responsible.

12.2. Non-Compliance to ATFM Departure Slots

Requirements

Member States shall ensure that where adherence to ATFM departure slots at an airport of departure is 80 % or less during a year, the ATS unit at that airport shall provide relevant information of non-compliance and the actions taken to ensure adherence to ATFM departure slots. Such actions shall be indicated in a report to be submitted by the member State concerned to the Commission

Process

Phase 1:

- A report monitoring the adherence of European aerodromes of departure to ATFM departure slots, according to the yearly target of 80 % (independently of the number of movements), shall be published quarterly by the NMD. This report shall present a summary per country and shall include the details of each aerodrome of departure not compliant with the target.

Phase 2:

- The ATS units are responsible for investigating the detected problems.
- They have the possibility to use the CIR to investigate and get details (from monthly figures per aerodrome of departure until flight list associated to a day of departure) via the following reports:
  - Monthly evolution of departure traffic delay and departure compliance
  - Daily slot adherence to ATFM slots per ADEP
  - Slot adherence of flights
  - ATFM departure slot – list of non compliant aerodromes of departure for a given country of departure based on a specific adherence target (new report)

Phase 3:

- The member States are responsible for reporting directly to the EC, copying in the NMD.

12.3. Granted Exemptions

Requirements

Member States shall ensure that the central unit for ATFM notifies a member State which grants exemptions in excess of 0,6 % of that member State's annual departures

Process

Phase 1:

- A report monitoring the yearly level of exempted flights per country and their adherence to the target of 0.6% per year shall be published quarterly by the NMD. This report shall present a quarterly evolution per country together with country details (yearly and monthly repartition) about each status of exemption.

Phase 2:

- The member states are responsible for leading the investigation of the detected problems.
- The member states have the possibility to use the CIR to investigate and get details: list of exempted flights per country for a period of 1, 2, 3, 7 days or for a full month via the following report:
  - List of exempted flights for a country of departure

Phase 3:

- The member States are responsible for reporting directly to the EC, copying in the NMD.

12.4. Non-Compliance to Flight Plan Suspensions

Requirements

The ATS unit at the airport concerned shall provide relevant information on any failure to adhere to flight plan suspensions at that airport and of the actions taken to ensure adherence. Such actions shall be indicated in a report to be submitted by the Member State concerned to the Commission.

Process

Phase 1:

- A report monitoring the flights activated by ATC, while suspended by the Flight Activation Monitoring (FAM), with airborne data received when temporary suspended (subsequently referred to as unduly activated traffic below) shall be published quarterly by the NMD.
- The report shall present a yearly evolution of the European zone together with a top 30 of the aerodromes of departure (according to their unduly activated traffic). To complete this report, a summary per country will give monthly figures for the country and detail for each aerodrome of departure having unduly activated traffic.

Phase 2:

- The ATS unit is responsible for leading the investigation of the detected problems.
- The ATS unit shall have the possibility to use the CIR to investigate and get information via the following reports:
  - FAM Monitoring Document:
    - Counts on shifts and suspension induced by FAM
    - Counts of flight subject to FAM
  - List of flights subject to FAM

Phase 3:

- The member States are responsible for reporting directly to the EC, copying in the NMD.

12.5. Missing or Multiple Filed Plans

Requirements

Member States shall ensure that the central unit for ATFM monitors the occurrences of missing flight plans and multiple flight plans that are filed.

Process

Phase 1:

- A report providing a monthly summary of
  - the number of flight plans held by the central route charges office (CRCO) that reference flights having no equivalents in NMD operational systems (ETFMS)
  - the number of flights where the NMD was not notified of take off. (i.e. that remained suspended by the Flight Activation Monitoring (FAM))

will be produced every quarter by the NMD.

Phase 2:

- The member States entities are responsible for leading the investigation of the detected problems.

Phase 3:

- The member States shall provide feedback to the NMD to be included in the annual report to the EC.

12.6. Operations Causing Prejudice to ATFM

Requirements

Member States shall ensure that the central unit for ATFM reports to the airport slot coordinators on repeated operation of air services at significantly different times from the allocated airport slots or with the use of slots in a significantly different way from that indicated at the time of allocation, where this causes prejudice to ATFM.

Process

Phase 1:

- When the misuse of an airport slot impacting ATFM is detected, a report to the relevant airport slot coordinator shall be provided directly by the NMD.

Phase 2:

- The airport slot coordinator shall lead the investigation of the detected problems and report back to the NMD with the results.

Phase 3:

- The airport slot coordinator shall provide feedback to the NMD to be included in the annual report to the EC.

12.7. Annual Report on the Quality of the ATFM in the ECAC Airspace

Requirements

When implementing Article 11, member States shall ensure that the central unit for ATFM produces annual reports indicating the quality of the ATFM that shall include details of: (a) causes of ATFM measures:

(b) impact of ATFM measures;

(c) adherence to ATFM measures;

(d) contributions by parties referred to in Article 1(3)4 to the optimisation of the overall network effect.

Process

Phase 1:

- NMD shall produce a report to summarise the effectiveness of ATFM measures on the network over the year.

Phase 2:

- NMD shall consult with the parties listed in Article 1(3) that shall provide their input.

Phase 3:

- NMD shall publish the report in line with its formal consultation process.

[4] Parties are: operators of aircraft; ATS units, including ATS reporting offices and aerodrome control services; entities involved in airspace management; airport managing bodies; central ATFM unit; local ATFM units; slot coordinators of coordinated airports.

13. SUGGESTION FOR EVOLUTION OF SYSTEM AND PROCEDURES

FMPs can propose an Operational User Requirements (**OUR**) in respect of any of the NM systems and procedures by means of the current procedure which is:

Complete an Operational User Requirements (**OUR**) form:

http://www.eurocontrol.int/network-operations/library

and submit it with the relevant available data.

Proposals will be considered in coordination with the appropriate stakeholder groups and decisions will be implemented by the NM.

INTENTIONALLY LEFT BLANK

14. DEFINITIONS

14.1. General

Terms and definitions included in this document have the following meanings:

14.2. Terms and Meanings

Air Traffic Flow Management (ATFM). A service established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that air traffic control capacity is utilised to the maximum extent possible, and that the traffic volume is compatible with the capacities declared by the appropriate air traffic services authority.

Air Traffic Flow and Capacity Management (ATFCM). ATFM extended to include the optimisation of traffic patterns and capacity management. Through managing the balance of capacity and demand the aim of ATFCM is to enable flight punctuality and efficiency, according to the available resources with the emphasis on optimising the network capacity through the collaborative decision making process.

ATFCM Daily Plan. The set of tactical air traffic flow management measures prepared during the Pre-Tactical phase.

ATFCM Slot Allocation Exemption. The exemption of a flight from air traffic flow management slot allocation.

ATFCM Incident. A significant occurrence affecting an air traffic services unit, an aircraft operator or a central management unit resulting from the application of air traffic flow management measures or procedures.

ATFCM Measures. Actions taken to accomplish air traffic flow and capacity management.

Aircraft Operator. A person, organisation or enterprise engaged in, or offering to engage in, an aircraft operation.

Capacity [for ATFCM purposes]. The operationally acceptable volume of air traffic.

Central Management Unit (CMU). A centralised unit providing air traffic flow management services within a specified area of responsibility.

Central Management Unit (CMU) Contingency Plan. Arrangements made to ensure the continued provision of the air traffic flow management service in the event of a failure of one or more of the central management unit components.

Cluster. A cluster is an optional partition of an ATC Unit Airspace (AUA). It groups a number (at least one, but usually more) of Elementary Sectors (ES) from the concerned ATC Unit Airspace (AUA).

Typically, an ATC Unit Airspace (AUA) can be split into 2 or more clusters, e.g. one for the East and one for the West. This corresponds to the way the concerned ATC Unit is operated in terms of sector configurations, in fact as 2 different operational units in this example.

A Cluster must have at least one sector configuration and at least one activation of sector configuration.

When an AUA is partitioned into clusters, it cannot have sector configurations. Instead, the sector configurations are defined and activated in each of its clusters.

Collaborative Decision Making (CDM). Process which allows decisions about events to be taken by those best positioned to make them on the basis of most comprehensive, up-to-date and accurate information. This in turn will enable decisions about a particular flight to be made according to the latest information available at the time, thereby enabling the flight to be dynamically optimised to reflect near or real-time events.

Critical Event. An unusual situation or crisis involving a major loss of EATMN capacity, or a major imbalance between EATMN capacity and demand, or a major failure in the information flow in one or several parts of EATMN.

Network Manager Directorate (NMD). Directorate in Eurocontrol where the central unit for ATFM is located.

Flow Management Position (FMP). A working position established in appropriate air traffic control units to ensure the necessary interface between local ATFCM partners (i.e. ATCs, AOs and Airports) and a central management unit on matters concerning the provision of the air traffic flow and capacity management service.

Depending on the internal organisation within a State, in addition to FMP staff some ATFCM activities may be carried out by other national units such as a Headquarters (HQ) Section. Where tasks are carried out by such units, coordination procedures must be established between the units concerned and the FMP(s) so that full account is taken of the situation in the FMP's area of responsibility before decisions are made or agreements reached.

Monitoring Value (MV). An agreed number of flights entering a sector, aerodrome or point that triggers the initial traffic assessment during a rolling 1 hour period from which coordinated actions may be considered. The monitoring value should not be confused with the capacity, and the monitoring value shall never be greater than the capacity.

Network Manager (NM). Function provided by the Eurocontrol Network Manager Directorate (NMD) as described in the NM Implementing Rule of the European Commission.

Over-Delivery. An occurrence when the declared rate is exceeded by the actual number of aircraft that enter a regulated sector during a particular period.

Overload. An occurrence when an air traffic controller reports that he/she has had to handle more traffic than they consider it was safe to do so.

Post Operations. An ATFCM phase that takes place after the day of operation for analysis of planning procedures and coordination, the results of which are fed back into the planning process for further consideration.

Pre-Tactical. An ATFCM phase which takes place during six days prior to the day of operation and consists of planning and coordination activities.

Rate. A value, required as input to slot allocation.

Rerouting [for ATFCM purposes]. An ATFCM measure which requires an aircraft operator to file an alternate route/flight level in order to resolve ATC capacity problems and minimise delays.

Route Availability Document (RAD). A sole source planning document that combines AIP route flow restrictions with ATFCM routeing requirements designed to make the most effective use of ATC capacity.

Slot [for ATFCM purposes]. CTOT issued by the NM.

Slot Adherence. Compliance with a CTOT by the aircraft operator and ATC, taking into account the slot tolerance.

Slot Allocation. An ATFCM measure implemented by means of a departure slot in order to balance traffic demand against available ATC capacity.

Slot Tolerance. A window of time around a CTOT available to ATC for which the aircraft must not depart outside.

Strategic. An ATFCM phase which takes place seven days or more prior to the day of operation and includes research, planning and coordination activities.

Suspension [for ATFCM purposes]. An ATFCM measure resulting in the suspension of a flight.

Tactical. An ATFCM phase, which takes place on the day of operation.

Volume of Air Traffic [for ATFCM purposes]. The number of aircraft within a defined airspace or aircraft movements at an aerodrome, within a specified period of time.

15. DICTIONARY OF ABBREVIATIONS

ACRONYM	DEFINITION
ACC	Area Control Centre
AD	Aerodrome
ADP	ATFCM Daily Plan
AFTN	Aeronautical Fixed Telecommunication Network
AIM	ATFCM Information Message
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information, Regulation and Control
AMC	Airspace Management Cell
ANM	ATFCM Notification Message
ANSP	Air Navigation Service Provider
AO	Aircraft Operator
AOLO	Aircraft Operator Liaisons Officer
AoR	Area of Responsibility
ARR	Arrival message
ARO	Air Traffic Services Reporting Office
AS	Airspace Volume
ASM	Airspace Management
ASTER	ATFM System of the European Region
ATC	Air Traffic Control
ATFCM	Air Traffic Flow and Capacity Management
ATFM	Air Traffic Flow Management
ATM	Air Traffic Management
ATS	Air Traffic Services
ATSU	Air Traffic Services Unit
AZ	Set of Aerodromes
CACD	Central Airspace and Capacity Database
CASA	Computer Assisted Slot Allocation
CDM	Collaborative Decision Making
CENTRA	Tool used for teleconferencing and e-learning
CEST	Central European Standard
CET	Central European Time
CHAMAN	Chaotic Situation Management
CIFLO	Collaboration Interface for FMP
CMU	Central Management Unit

ACRONYM	DEFINITION
CNL	Cancellation message
COM	Current Operations Manager
CPR	Correlated Position Report
CST	Contingency plan Start Time
CTO	Calculated Time Over
CTOT	Calculated Take-Off Time
DMEAN	Dynamic Management of European Airspace Network
DPI	Departure Planning Information
DTW	Departure Tolerance Window
EAUP	European Airspace Use Plan
ECAC	European Civil Aviation Conference
EM	Exempted
ENV	NM - Environment System
EOBT	Estimated Off-Block Time
ERT	ETFMS Recovery Time
ESARR	EUROCONTROL Safety Regulatory Requirements
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
ETFMS	NM - Enhanced Tactical Flow Management System
ETO	Estimated Time Over
ETOT	Estimated Take-Off Time
EUR	The ICAO European Region
EUROCONTROL	The European Organisation for the Safety of Air Navigation
EUUP	European Updated Airspace Use Plan
EX	Excluded
FAM	Flight Activation Monitoring
FIR	Flight Information Region
FL	Flight Level
FLS	Flight Suspension message
FMP	Flow Management Position
FM Supervisor	NMOC Flow Management Supervisor
FPL	Flight Plan
FSA	First System Activation Message
HQ	Headquarters
IANS	EUROCONTROL Institute for Air Navigation
ICAO	International Civil Aviation Organization
IE	Included/Exempted

ACRONYM	DEFINITION
IFPS	Integrated Initial Flight Plan Processing System
IN	Included
LoA	Letter of Agreement
MDI	Minimum Departure Interval
MET	Meteorological
MO	Monitorable TFV
MV	Monitoring Value
NAT	North Atlantic Region (ICAO)
NM	Network Manager
NMD	Network Manager Directorate
NMC	Network Management Cell
NMOC	Network Manager Operations Centre
NOP	Network Operations Plan
NOTAM	Notice to Airmen
NS	Network Specialist
OCG	Operational Coordination Group
ODSG	OCG Operations and Development Sub-group
OPTICON	OPTI-mise CON-figuration tool
OUR	Operational User Requirements
PCST	Provisional Contingency plan Start Time
PREDICT	NM prediction tool
RAD	Route Availability Document
REA	Ready message
RL	Reference Location
RTF	Radiotelephone (ICAO 8400/4) Radiotelephony (ICAO 9426-AN/924)
RVR	Runway Visual Range
RWY	Runway
SAM	Slot Allocation Message
SID	Standard Instrument Departure
SIMEX	Simulation and Experiment Facilities
SITA	Société Internationale de Télécommunications Aéronautiques
SLC	Slot Cancellation message
SP	Significant Point
SRM	Slot Revision Message
STAM	Short-Term ATFCM Measures
STAR	Standard Instrument Arrival
STS	Status Indicator

ACRONYM	DEFINITION
STW	Slot Tolerance Window
TFV	Traffic Volume
TNC	Tactical Network Coordinator
TTOT	Target Take-Off Time
TWR	Tower
UIR	Upper Flight Information Region
UTC	Coordinated Universal Time
WBT	web-based training
XCD	Exceptional Condition

16. ANNEX A: ATFCM PROCEDURAL CONTINGENCY ARRANGEMENTS

16.1. ATFCM Procedural Contingency Plan

The ATFCM Procedural Contingency Plan consists of four phases.

- **1. Alert** phase
- **2. Activation** phase
- **3. Operational contingency** phase
- **4. Recovery** phase

1. Alert Phase

Having been notified of a ETFMS system failure, the COM shall send a stored pre-formatted **Alert Flash** message to FMPs, ATS units and AOs advising them of the situation and to be prepared for the activation of the ATFCM Procedural Contingency Plan. This message will include a Provisional Contingency plan Start Time (PCST). The message will also indicate that each FMP is the focal point for obtaining more detailed information on the implementation of the plan.

In the event of failure of the NM communication systems in Brussels or in the event of an evacuation of the NM operations room an identical Alert Flash message shall be sent by a nominated remote unit, e.g. FP2 Brétigny. The remote unit shall be notified by the COM by (portable) telephone. The validity of the notification shall be confirmed by an authentication telephone call.

On receipt of the Alert Flash message FMPs and nominated ATC towers (as stipulated in individual LoAs) shall act in accordance with local procedures to ensure activation of the local plan.

Note: FMPs may manage the contingency operation on behalf of ATC towers within their area of responsibility.

Slot revisions requests obviously shall not be possible. During the alert phase the slot tolerance window shall therefore be extended to -5 to +20 minutes to ensure that as many flights as possible with slots depart. Flights unable to depart within the extended window should expect to be processed under the conditions of the operational contingency or recovery phases.

Flights departing from non-nominated airfields are not affected by the contingency plan.

2. Activation Phase

If it is confirmed that the ETFMS system failure is likely to continue the COM shall send a stored pre-formatted Activation Flash message to FMPs and nominated ATC towers (as stipulated in individual LoAs) ordering activation of the ATFCM Procedural Contingency Plan. Other ATS units and AOs shall also receive a copy of this message for information.

In accordance with local procedures FMPs and/or nominated ATC towers shall apply the ATFCM Procedural Contingency Plan. The Contingency plan Start Time (CST) shall be clearly specified in the Activation flash message. The CST shall normally be set at two hours following the failure of the ETFMS system.

During the activation phase, towers shall continue to honour those Calculated Take Off Times (CTOTs) which fall within the period up to CST.

The provisions of the alert phase with respect to the extended slot tolerance window will continue to apply. Where the application of the slot tolerance window takes flights into the operational contingency phase the flights shall still be allowed to depart as long as they remain within the extended slot tolerance window.

3. Operational Contingency Phase

Nominated ATC towers and/or FMPs shall now commence operation of their corresponding departure interval. Any CTOTs that have been issued that fall within this period shall be ignored and the flights concerned shall be processed in accordance with the departure interval arrangements.

Nominated ATC towers and/or FMPs shall depart flights in accordance with the departure interval relative to the ATFCM Procedural Contingency Plan. In order to ensure an orderly transition during the recovery phase start up times to make good departure intervals should be allocated **no more** than one hour in advance.

If during this phase it becomes apparent that the outage is expected to be longer than a period of 6 hours, NM personnel shall, if circumstances permit, attempt to fine tune the plan by modifying the departure interval, taking into account important changes to seasonal or other variations known at the time. These modifications shall be communicated to the FMPs and nominated ATC towers.

In order to reduce delays and utilise all available capacity during the operational contingency phase FMPs may, **on a tactical basis**, co-ordinate agreements with ATS units, within their area of responsibility, and with adjacent FMPs to provide tactical increases to flights remaining within their area of responsibility.

4. Recovery Phase

Once the ETFMS system has been declared operational the COM shall send a stored pre-formatted Recovery Flash message to FMPs and nominated ATC towers advising of the return to service of the ETFMS system and the move to the recovery phase. Other ATS units and AOs shall also receive a copy of this message for information and, where required, for action.

The Recovery Flash message shall include the ETFMS Recovery Time (ERT) and details of transition from the departure interval system to the standard CTOT departure slot system. The transition from departure interval to CTOT shall normally be at ERT. However a slot tolerance for the MDIs would result in flights with MDIs having departed by ERT + 10 minutes. If required this message shall be followed by an ANM Flash message detailing the regulations still in force.

In order to ensure an efficient transition from manual to automatic operations the recovery phase is split into 2 periods. The periods and associated actions are as follows:

Time	Actions at Nominated Airfields	Depart Subject to	ETFMS Rates
ERT until ERT + 1 Hour	• By ERT + 10 minutes all flights subject to Departure Interval should have departed. • Departure will be in accordance with CTOT. • FMPs will co-ordinate, if required, with NM for flights subject to regulation that have neither Departure Interval nor CTOT to agree position in the flow. (NM staff will use the 20% of rate not allocated automatically to provide a CTOT)	CTOT	80% Capacity
Beyond ERT + 1 Hour.		CTOT	100% Capacity

Flights departing from non-nominated airfields will adhere to the normal ETFMS procedures following the recovery of the ETFMS

17. ANNEX B: ACC CONTINGENCY PLAN TEMPLATE

	INITIAL ACTION				RECOVERY	
OCCURRENCE	**AFFECTED AREA**	**CONTINGENCY MEASURE**	**TFV TO BE USED**	**RATE**	**ACTIONS**	**RATE**
Evacuation of the ACC						
Radar failure						
Ground and R/T failure						
R/T failure						
Telephone failure						
Power failure						
FDPS						
Staff shortage Strikes						

mailto:nm.acc-contingency@eurocontrol.int

DOCUMENT FINAL PAGE