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Network Manager

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7. Post operations Phase	
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19. ANNEX H – Regulatory Reporting Process	
20. ANNEX I – ACC Contingency plan form	
21. ANNEX J – ATFCM MESSAGE TYPES	Mention to *ATFM messaging AOWIR via NM B2B Use Cases* document.
Abbreviations	

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1 INTRODUCTION

1.1 Purpose

The ATFCM Operations Manual is intended to provide Flow Management Positions (**FMPs**) and EUROCONTROL's Network Manager (**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**).

1.2 Scope

The ATFCM Operations Manual is designed to provide guidance and procedures for all EUROCONTROL NM and FMP staff involved in the delivery of ATFCM services.

1.3 Intended Audience

The ATFCM Operations Manual is intended for all EUROCONTROL NM and FMP staff involved in operational air traffic flow and capacity management.

1.4 Structure

The ATFCM Operations Manual is made up of 11 chapters and 10 annexes.

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 Procedures

Within this manual, the procedures covering the operational execution of ATFCM are, as far as possible, presented in boxed text to aid operational staff to quickly and easily identify them.

1.7 Exceptions for FMPs

Special agreements regarding ATFCM procedures between the NM and certain FMPs may exist in Annex 2 of the concerned NM Agreement; where such exist,

they may allow exemptions from the relevant procedures detailed in this manual.

1.8 Validity

The application of this manual is in line with the operational implementation of the NM software releases, with edition numbering of the manual reflecting the relevant software release. Incremental numbering shall be used to indicate interim updates. This document shall not be used operationally before the date of the NM software release with which it corresponds. Updated procedures published as Operational Instructions take precedence over the procedures published in this manual. Updated procedures are available on the NOP Portal under the *Network Operations HANDBOOK Portlet > Network Operations Procedure Updates* (https://www.nm.eurocontrol.int/STATIC/html/indexProcedureUpdates.html).

2 ATFCM OVERVIEW

Air Traffic Flow and Capacity Management (ATFCM) is one of the constituent parts of Air Traffic Management (ATM). The Network Manager Operations Centre (NMOC) provides an ATFCM service to airspace users throughout the European Civil Aviation Conference (ECAC) states. The NMOC is the successor of the Central Flow Management Unit (CFMU).

The International Civil Aviation Organisation (ICAO) defines ATM as:

- Airspace Management (ASM).
- Air Traffic Flow and Capacity Management (ATFCM).
- Air Traffic Control (ATC).

As with any other commodity, airspace is a valuable resource, particularly when subject to high demand. Since airspace is a fixed volume, ASM is a vital activity, involving the planning, sector definition, use and management of airspace to satisfy the needs of the users in the most efficient and equitable manner. However, economic activity and the surge in demand during certain periods, mean that the available air traffic control capacity needs a smoothing and protection mechanism to avoid overloads and to make the most efficient use of the airspace by providing dynamic flow management.

In this sense, ATFCM endeavours to make airspace and aerodrome capacity meet traffic demand and, when the latest capacity opportunities have been exhausted, make the demand meet the maximum available capacity. The latter part may result in flow measures which imply the allocation of individual aircraft departure times (slots), as appropriate, to combat bottlenecks and reduce safety risks as much as possible. Throughout all this activity, there is continuous communication and exchange of information with all the European air traffic control units and aircraft operators.

2.1 Governing Principles

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.
c) **Commission Implementing Regulation** 2019/123 on ATM network functions (NM Regulation), Article 17 Working arrangements and processes for operations (applicable as of 1.1.2020).
d) **Commission Implementing Regulation** 2017/373 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight (Common Requirements), ANNEX III COMMON REQUIREMENTS FOR SERVICE PROVIDERS (Part-ATM/ANS.OR), SUBPART B — MANAGEMENT (ATM/ANS.OR.B), ATM/ANS.OR.B.035 Operations manuals (applicable as of 1.1.2020).
e) **Commission Regulation** (EU) 255 / 2010 on air traffic flow management (ATFM regulation) relevant articles.

2.2 Network Manager (NM) Agreements

EUROCONTROL concluded NM Agreements (previously known as Letters of Agreement or LoAs) with the operational stakeholders which address administrative, legal, technical and operational matters relating to the Network Manager services they subscribe to. The NM Agreements include annexes which contain references to the contact points and applicable documentation. There is one particular annex (Annex 2) detailing the operational arrangements for the specific ACC(s).

2.3 Areas Covered

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

The Flight Plan Message (FPM) Distribution Area (**FPM DIST**) is the area in which the 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. It comprises the following states:

Albania, Armenia, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Moldova, Monaco, Montenegro, Morocco, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, the Republic of North Macedonia, Turkey, Ukraine and the United Kingdom of Great Britain and Northern Ireland.

Certain states are cooperating with the NM by exchanging data with the NM and participating in the NM ATFCM service. These States are described as cooperating States and the NM collectively refers them as the ATFCM Adjacent Area. The NM provides them with limited ATFCM services based on an NM 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.

The latest update of the list of adjacent FIRs may be found on the website:

http://www.nm.eurocontrol.int/STATIC/NM_AREA/

2.4 ATFCM Phases

The ATFCM provision in the ECAC region is carried out in four phases:

Strategic flow management takes place **seven days or more prior to the day of operations** and includes research, planning and coordination activities through a Collaborative Decision Making (CDM) process. This phase comprises a continuous data collection with a review of procedures and measures directed towards an early identification of major demand / capacity

imbalances (such as: axis management, air shows, major sport events, military exercises, etc.). When imbalances are identified, and depending on the type of the event, the NM is responsible for the overall coordination and execution of strategic ATFCM planning to optimise all available capacity and achieve performance targets. The output of this phase is the Network Operations Plan (NOP).

Pre-tactical flow management is applied during the **six days prior to the day of operations** and consists of planning and coordination activities. This phase studies the demand for the day of the operation, compares it with the predicted available capacity on that day, and makes any necessary adjustments to the plan that was developed during the Strategic phase. The main objective of the pre-tactical phase is to optimise efficiency and balance demand and capacity through an effective organisation of resources (e.g., sector configuration management, use of scenarios, etc.) and the implementation of a wide range of appropriate ATFCM measures. The work methodology is based on a CDM process between the stakeholders (e.g. the NM, FMPs, AOs).The output is the ATFCM Daily Plan (ADP) published via ATFCM Notification Message (ANM) / Initial Network Plan (INP) and via the NOP portal.

Tactical flow management takes place **on the day of operations** and involves considering, in real time, those events that affect the ADP and making the necessary modifications to it. This phase is aimed at ensuring that the measures taken during the strategic and pre-tactical phases are the minimum required to solve the demand / capacity imbalances. The need to adjust the original plan may result from disturbances such as staffing problems, significant meteorological phenomena, crises and special events, unexpected limitations related to ground or air infrastructure, etc. and taking advantage of any opportunities that may arise. The provision of accurate information is of vital importance in this phase, since it permits short-term forecasts, including the impact of any event and maximises the existing capacity without jeopardising safety.

Post operational analysis is the final step in the ATFCM planning and management process and takes place **following the tactical phase of operations**. During the post operations analysis phase, an analytical process is carried out that measures, investigates and reports on operational processes and activities throughout all domains and external units relevant to an ATFCM service. All stakeholders within the ATFCM service should provide feedback on the efficiency of the ADP (ATFM measures and delays, the use of predefined scenarios, etc.), flight planning and airspace data issues. This phase compares the anticipated outcome (where assessed) with the actual measured outcome, generally in terms of delay and route extension, while taking into account performance targets. The final result of this phase is the development of best practices and / or lessons learnt for improving upon those operational processes and activities.

2.5 Collaborative Decision Making (CDM)

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 accurate information and ensuring that all concerned stakeholders are given the opportunity to influence the decision. This enables decisions agreed collaboratively to reach performance objectives and enable particular flights to be dynamically optimised to reflect near or real-time events.

A decision to implement and execute ATFCM measures within the Area of Responsibility (AoR) of an FMP shall normally be preceded by a CDM process. This process provides the various organisations with the opportunity to update each other continuously on events from the strategic level to the real-time in a timely and accurate manner. To be efficient and reach the required objectives, CDM must be:

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

The organisation and structure of the ATFCM CDM process has been designed to ensure that the affected stakeholders, service providers and airspace users alike, can discuss airspace, capacity / demand and flight efficiency issues through regular sessions and formulate plans that consider all pertinent aspects and points of view. 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 and the network. The result is a set of agreed ATFCM measures / solutions to be considered for implementation in the pre-tactical and tactical phases. Conferences and briefings take place in advance to consider these ATFCM events (e.g. axis conferences) following the CDM process.

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. The CDM process occurs daily and may be scheduled more frequently depending on the traffic and capacity situation. The output of these daily conferences is the ATFCM daily plan (ADP).

The ADP is then constantly updated during the day of operations through further CDM processes. Tactical briefings and conferences are scheduled depending on the traffic patterns and their intensity applicable to the area.

Participants should include involved **NM staff, ANSPs** (FMP and ATS units), **AOs** (chief or senior dispatchers and the AO Liaison Cell), affected **military authorities** and **airport authorities**, as applicable.

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

Whereas the final decision on the regulation implementation is for the FMP, the details on the regulation itself should be coordinated with the NM except if otherwise specified through particular instruction.

The implementation of a Network measure (e.g. level capping, rerouting) affecting the area of responsibility of **multiple FMPs** remains the responsibility of the NM who shall 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.

2.6 ATFCM Solutions to Capacity Shortfalls

Following the SES concept of Collaborative Decision Making (CDM), the NM shall consider continuously and pro-actively all possible ATFCM solutions through a continual and seamless process as from the strategic planning until the execution of operations.

The anticipation of any event according to new information allows to minimise its 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 the figure following below. These solutions will have to be thoroughly evaluated before a decision to implement them could be taken.

Where overloads are detected and the CDM process is initiated, different ATFCM solutions should be considered between the NM and the respective FMP(s). A general description of the steps to provide those solutions can be found below:

- Optimise the utilisation of available capacity.

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

  - Sector management.
    - Sector configuration.
    - Number of sectors.
    - Collapsing / splitting sectors.
  - Balancing arrival / departure capacity.
  - Flight list assessment (flights of minor workload).
  - Negotiate extra capacity.
    - Monitoring values.
    - Occupancy counts.
  - ATFCM / ASM (civil / military coordination).
  - Reduce traffic complexity.
  - Holding pattern.

And / or

- Utilise other available capacities.

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

  - Rerouting.
    - Flows.
    - Flights.
  - FL management.
  - Advancing traffic.
  - FMP tactical ATFCM measures.
    - FMP FL management.
    - FMP rerouting.

And / or

- Regulate the demand.

Constraints will be imposed to traffic by the solutions set out under the heading. It consists of real-time optimisation of capacity / demand across Europe, and delay management where aircraft are affected by a regulation in order to offer alternatives and minimise delay. Flights taking place on that day receive the benefit of ATFCM, which includes the allocation of individual aircraft departure times, re-routeings to avoid bottlenecks and alternative flight profiles to maximise efficiency.

- Regulation.
- Network cherry-pick regulation.
- FMP tactical ATFCM measures.
  - Minimum Departure Intervals (MDIs).
  - Miles in Trail (MIT).
- Constrain airborne capacity.

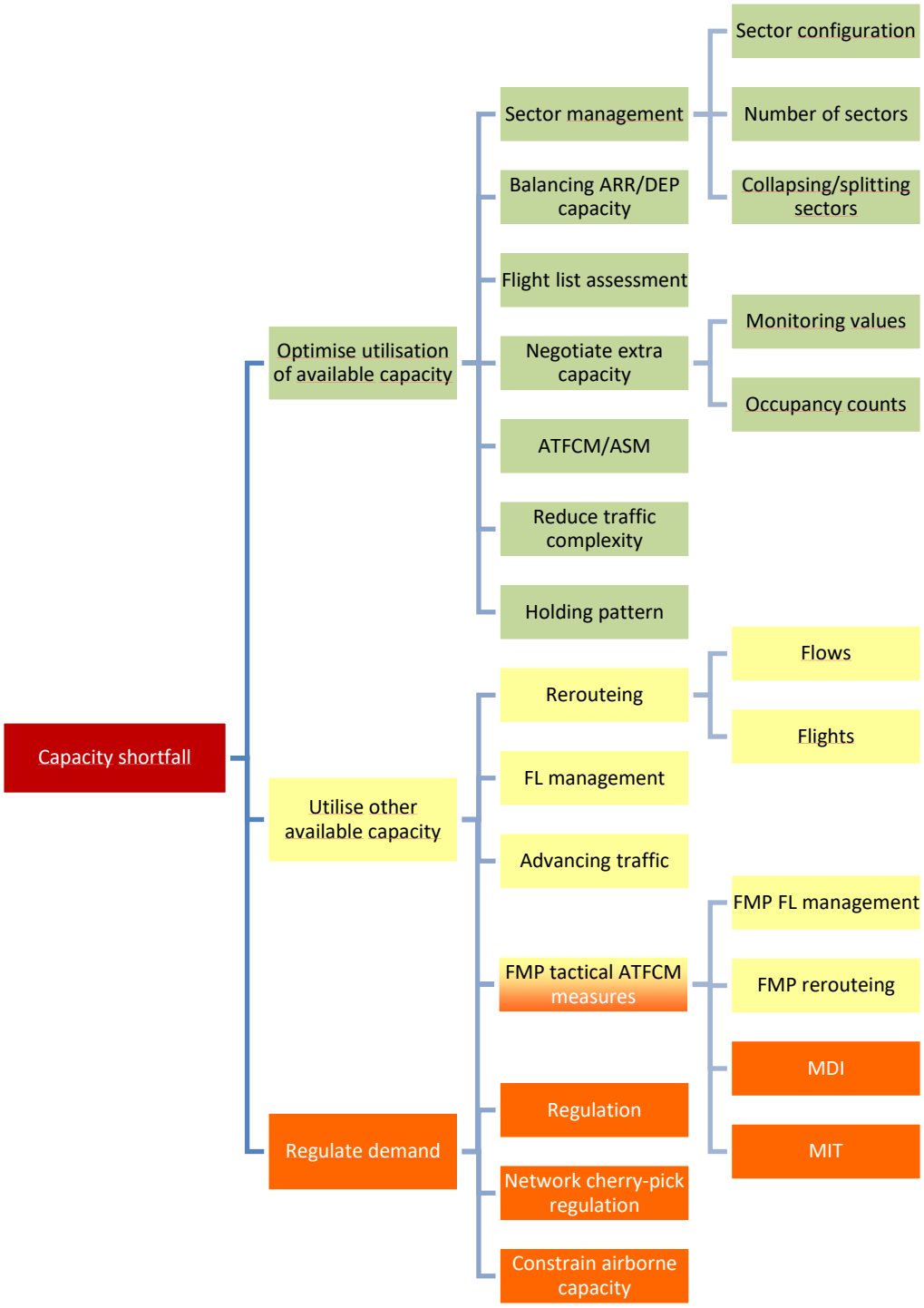


Figure 1 - ATFCM Solutions to capacity shortfalls

2.7 NM ATFCM Systems

The Flow and Capacity Management systems are at the heart of the Air Traffic Flow and Capacity Management (ATFCM) services provided by the Network Manager. Their purpose is to provide information about current and anticipated air traffic demand and capacity in the European airspace and to provide tools to support planning, execution and monitoring of ATFCM measures.

The Flow and Capacity Management systems receive data from the **Integrated Initial Flight Plan Processing System (IFPS)** and the **Central Airspace and Capacity Database system (CACD)**, as well as live **ATC data** from the Air Navigation Service Providers (ANSP), **AO Position Reports (APRs) messages** and **meteorological (MET) data** from a meteorological service provider.

The Flow and Capacity Management systems archive information into the Historical Information Management systems, the **Data Warehouse** (**DWH**).

The Flow and Capacity Management systems include the following:

The **Enhanced Tactical Flow Management System (ETFMS)** compares traffic demand, regulated demand and load against capacity to assess possible imbalances in the European airspace and allows the implementation of measures to resolve these imbalances in the traffic, such as regulations or rerouting.

The **PREDICT** system compares forecasted traffic and capacity to evaluate the load situation for the following days (up to 6 days in advance). ATFCM measures may be implemented in this system in order to assess their impact before being applied in ETFMS. It uses the Demand Data Repository (DDR) to enrich historical data with expected demand.

The simulation tool, **SIMulation and EXperiment (SIMEX),** is used in strategic, pre-tactical and tactical ATFCM operations. It enables Network Operations staff to simulate ATFCM measures or restrictions before applying them to the previous systems.

A functionality called **OPTI-mise CON-figuration (OPTICON)** helps in the choice of sector configuration and to enable better assessment of impact of the change of configuration. OPTICON functionality is provided by PREDICT, the ETFMS and SIMEX as well.

The **Data Distribution System (DDS)** is used to distribute real-time ETFMS flight data (EFD) to NM operational stakeholders concerned as significant flight data updates occur in the ETFMS. DDS functionality is provided by the ETFMS.

The **Network Operations Plan (NOP) Portal** is an interface that provides a consolidated view of the different aspects of the NOP and gives access to a set of services to support the NOP preparation and dissemination activities.

It is a Web application that provides secured access to, and interaction with, relevant NM information / content, applications and business processes and resources for selected targeted audiences, delivered in a personalised manner (including customisation).

The public version of the NOP contains information to assist parties involved in ATM operations. However, some elements which are subject to a service agreement are only accessible from the Protected NOP.

Having access to the up-to-date information of the Network situation allows the different actors to more dynamically plan and manage the Network.

The **Collaboration Human Machine Interface (CHMI)** is a standalone application which provides an interface for the Network Operations systems allowing users to display data (such as information on regulations, flight lists, etc.) and graphical information (such as routes, route attributes, airspaces, flight plan tracks, etc.) via map displays. This real time information enables Collaborative Decision Making (CDM) between all partners.

To accommodate most operational stakeholders' needs, several customised products have been developed:

- CIAO: CHMI for Aircraft Operators.
- CIFLO: CHMI for Flow Management Positions – to allow FMPs to access ETFMS, PREDICT, SIMEX, CACD and DWH data.
- CIREN: CHMI for Environment Coordinators Collaboration – to allow environment coordinators from each country to access pre-validation information prior to the AIRAC data release date.
- CITO: CHMI for Airport Towers.
- CIAM: CHMI for Airspace Management Cells.

The **Network Management Portal (NMP)** applications are streamlined web tools replacing older NM interfaces like CHMI and NOP. They offer interactive displays of operational data, such as regulations, flight lists, routes, and airspaces, with integrated features including e-Helpdesk, NMP RAD, and simulation to support real-time Collaborative Decision Making (CDM).

Key components are a re-designed flight list, system-to-system regulation proposals, simulation functionality, and an information hub. Users have unified access to these resources through the NMP modules.

To accommodate most operational stakeholders' needs, several customised products have been developed:

- NMP Flight
- NMP Flow

The **NMUI** serves as a single, modern entry point providing users with unified access to applications, including **NMUI Flight, NMUI Flow, and NMUI Tower**. Through a consistent interface, stakeholders such as AOs, FMPs, and TWR can efficiently plan and monitor flights, manage traffic and regulatory requirements, and oversee airport and runway operations. This integrated, role-focused suite of NMUI applications replaces older NM interfaces like CHMI, NOP and NMP, enhancing situational awareness and facilitating improved coordination.

To accommodate most operational stakeholders' needs, several customised products have been developed:

- NMUI Flight
- NMUI Flow
- NMUI Tower

3 PARTNERS

3.1 Flow Management Position (FMP)

3.1.1 General Duties

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

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 NM Agreement. 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 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).
- Traffic volumes (always).
- Flows to be associated to a reference location (always).
- Taxi times and runway configurations (pre-tactical and tactical phases).
- Monitoring values of Traffic Volumes (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 NM Agreement.

Nevertheless, from a practical point of view, the FMP will be the focal point 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.

The FMP manager role 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) Should have, in accordance with local requirements, extensive ATC experience and have good knowledge and understanding of ATC matters in the area of responsibility of the ACC(s) in accordance with local requirements.
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.

3.2 Network Manager Operations Centre (NMOC)

The Network Manager Operations Centre primarily carries out three operational functions:

- Airspace Data Management.

- Flight Plan Processing.
- Air Traffic Flow and Capacity Management.

The nomination of ECTL as Network Manager resulted in the creation of the following profiles in order to ensure a seamless and proactive service provision driven by performance (capacity, environment /flight efficiency, safety and cost effectiveness) in the European Network.

Operations Manager (NM OM)

The Operations Manager (OM) is the Network Manager Operations Centre leader and is accountable for the specific performance targets on a daily basis. The OM is responsible for leading also projects that respond to the operational requirements of the **Operations Manager.**

The OM role is an H16 responsibility.

Deputy Operations Manager (NM DOM)

The purpose of the job is to participate in the management and execution of the operational functions in order to ensure the network operations service delivery and deputise for the Operations Manager when required while respecting and promoting good safety practices.

DOMs shall adjust the staff assignment to reflect the current pre-tactical and tactical priorities.

The DOM role is an H24 responsibility.

In case of DOM absence during the night shift (sickness), the OM on duty shall report the absence to the NM IFPS SPVR mail address (and Head of **NMOC** in copy) and communicate the name and phone number of the manager on duty (it might be the

Head of **NMOC** or other NM manager).

The Duty IFPS Supervisor is then responsible for contacting the Head of **NMOC** or the manager on duty if necessary (disruption, sudden crisis or other operational problem that cannot be managed at NMOC level).

Senior Network Operations Coordinator (NM SNOC)

The purpose of the job is to develop, propose and dynamically coordinate an ATFCM Daily Plan, through a CDM process and tactical and pre-tactical ATFCM solutions for aircraft operators and Air Traffic Control Centres in order to optimise capacity and its utilisation within the European airspace while respecting and promoting good safety practices.

The SNOC role is an H16 responsibility.

Network Operations Controller (NM NOC)

The purpose of the job is to optimise the available airspace capacity and its use for aircraft operators taking into account the restrictions and limitations required by ACCs and airports, while respecting and promoting good safety practices.

The NOC role is an H24 responsibility.

Network Operations Officer (NM NOO) – ATFCM function (Duty time H24)

This job is meant to execute real-time operational functions within the ATFCM area of activity in accordance with defined processes, procedures and reporting requirements while respecting good safety practices.

Network Operations Specialist (NM NOSP) – ATFCM function (Duty time 10:00 to 19:00 CET)

This job is meant to assist the Senior Network Operations Coordinator in the day-to-day operations of the ATFCM Daily Plan.

Aircraft Operator Liaison Officer (NM AOLO) (Duty time 06:00 to 22:00 CET)

This job is meant to assist aircraft operators in optimising their use of available airspace capacity taking into account the restrictions and limitations required by ACCs and airports while respecting good safety practices taking account of natural hazards

Military Liaison Officer (MILO)

A function has been created in the NMOC to enhance the coordination process between ATFCM and ASM actors and in particular between the civil and military partners. This function is provided by military ASM experts at the Military Liaison Officer position (MILO) in the NMOC, acting as part of the Network Operations Management function and working closely with the pre-tactical and tactical teams.

Airport Function (AF) (Duty time 06:00 to 22:00 CET)

The focal point in NMOC for monitoring/identifying/reporting airport issues and for providing support to optimise Airport operations.

NM Metereological (MET Specialist)

A role established to provide Meteorological advice and ongoing support to the NMOC operations room. Responsibilities include monitoring current weather conditions and forecasts, liaising with MET ANSPs, and maintaining close communication with the flow section, especially SNOC & DOM. The primary objective is to contribute to network stability through the delivery of bespoke and accurate meteorological updates and briefings for disruptive weather in the network.

3.2.1 NM Pre-Tactical Team

The NM pre-tactical team is under the leadership of the Deputy Operations Manager in charge of managing the ATFCM Daily Plan during its preparation. The main duties include:

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

The NM pre-tactical team 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.

The NM pre-tactical team is formed by the pre-tactical Senior Network Operations Coordinator and the Network Operations Specialists on duty.

3.2.2 NM Tactical Team

The NM tactical team is under the leadership of the Deputy Operations Manager 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.
- Provide feedback on operational issues for post operations and the pre-tactical team.
- Execute contingency procedures.

The tactical team is formed by the tactical Senior Network Operations Coordinator, the Network Operations Controllers, the Network Operations Officer, the Airport Function and the Aircraft Operator Liaison Officer and the MET Specialist on duty.

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4 STRATEGIC PHASE OF OPERATIONS

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 (according to the local organisation / procedure) 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. 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 CACD 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 Reporting of Events Impacting ATC / ATFCM

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

4.1.1 Provision of Information on events and long-term operational planning

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.

The FMP will pass to the responsible unit (NM Strategic/MILO/APT) information useful to ATFCM strategic planning including:

- Advanced 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, new system implementation/updates, airport events, airspace changes etc., likely to disrupt normal traffic patterns.
- Monitoring values.
- Sector configurations.
- A list of aerodromes likely to require ATFCM measures in normal and unusual circumstances.
- 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.
- Possible mitigation measures.
- 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.

4.1.2 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 to NM MILO. 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 Military Harmonisation Group (MILHAG) 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 as a Military Liaison Officer (MILO).

4.1.3 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 Airport Corner, which is a EUROCONTROL internet-based tool, enables airport stakeholders to easily provide information at any time to better assess the ATC / ATFCM impact. This reporting channel supports a coordinated input between the local ANSP and the airport operator.

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.

The airport unit is the central point of contact for the airport events, responsible for the management of those events and further coordination with the Airport Function.

4.2 Creation of the Events List

The events list is built up by NM Strategic with information that is taken from / provided by different sources.

Provided by:

- NMOC / Operational planning (OPL)
- FMP
- CACD
- SESAR
- MILO
- Airport Unit
- ERNIP

Taken from:

- Public news sources
- NOP / European Route Network Improvement Plan (ERNIP)
- Airport Corner

The aim of the events list is to provide a quick overview for users, on what is planned in the Network.

It contains a list of events / implementations / system updates etc. that may have an impact on the Network.

An isolated event might not have a big impact, but when a few events (including implementations of new system, airspace changes etc.) take place in adjacent FMPs at the same time, this could lead to a big impact on the Network (as the possibility exists that rerouteing of traffic / on-loading of adjacent ACCs, etc. cannot be done).

It is set up per AIRAC Cycle, with main attention to the first coming 6 months, and most events are published via the NOP Portal events calendar.

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 requires an availability of the data at least at AIRAC-56 days (2 AIRACs in advance). For more details please contact NM Strategic Operational Planning.

The list uses a colour coding to indicate difference between:

Pink:	Military exercises
Yellow:	Events (sport / political / art etc.)
White:	CACD implementations
Blue:	System changes / update / implementation
Grey:	Free Route Airspace
Violet:	Trials
Green:	Pre-validation
Orange:	Airport Based Events

Procedure

The **NM Strategic staff** shall:

- Check all available sources of information to update the events list on a regular basis.
- At the AIRAC date or as soon as possible after, email the latest version of the events list to all concerned parties (only the external part of the document).
- Ensure that the list of events for the next 10 days is available to the OPA/OM/DOM/SNOC/Pretact/MILO/MET Specialist/Airport Function/airport unit by Thursday afternoon for the Friday afternoon tactical briefing to give a short overview of the upcoming events from the list.

The FMP staff shall:

- Where they receive the monthly email from NM Strategic, check and provide feedback on the list regarding the correctness and completeness.
- If a new event or update is required to the event list, email the details to the NM Strategic section.
- Provide a single point of contact responsible for the event.

The **involved NMOC staff** shall:

- Following each ENV Data Transfer Control Board (EDTCB) meeting email the minutes to the NM Strategic section, list of known pre-validations to be added after EDTCB_0.
- On receipt of any information concerning a future event, pass the details to NM Strategic.

4.2.1 Event Planning Process

The events list is the main database for coordinating and planning for future events and reviewed monthly to avoid missing something.

Procedure

The **FMP staff** shall:

- Provide via the single point of contact all the details regarding the event for Network impact assessment.
- Propose, consider, coordinate and approve mitigation measures relevant to their area of responsibility.

The **NM Strategic / Airport / MILO and MET Specialist staff** shall:

- Assess the Meteorological situation for the period of the event, highlighting any potential Meteorological impacts to operations
- When possible, co-ordinate with local MET ANSPs to gain further insight and local expertise for the event's weather.
- Perform an initial impact assessment for each new event when details are received.
- Coordinate internally and identify the person responsible from **NM Strategic** for the event. If required, make request for operational staff support.

For events expected to have network impact,

the **Airport / MILO staff** shall:

- Request a detailed impact assessment to **NM Strategic** for military and airport events

The **NM Strategic** shall:

- Perform detailed impact assessment.
- If military or airport event, provide the results to **MILO/Airport** staff.

The **NM Strategic / Airport / MILO** staff shall:

- Prepare mitigation measures if necessary.
- Ensure that all the required coordination has been carried out to cover all aspects of the event.
- With the help of the NMOC staff involved with the event, write and publish the information notice (IN) / operational instruction (OI) / INP information covering the event if required.

The **NM Operations Analysis (OPA) Service / Airport unit** shall:

- If needed, perform post operational analysis of the events planning and operational implementation.

4.3 Notification of Updates to CACD

Whatever the organisation, the ANSP overseeing the FMP(s) within a State is responsible for establishing local procedures, ensuring that the NM is in possession of all relevant data during each ATFCM phase, and the quality of that data. This is also stated in Commission (EU) regulation 255 / 2010 article 6.

This procedure is aimed to cover the non-temporary update of the following CACD data that requires an operational Network impact assessment, and its submission to the NM:

- Creation / modification / deletion of traffic volumes (TFVs) with IE or EM flows;
- TFVs for scenarios;
- Capacities;
- Monitoring values;
- Occupancy Traffic Monitoring Values (OTMV).

Note: A TFV may 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.

All other requests that do not imply an operational Network impact assessment will be subject to a DMR and will be implemented in CACD by the NM AD section without prior coordination.

Note: For other CACD data check the **'Provision of CACD Data'** document in the Network Operations Handbook.

The receipt of the request will be confirmed by the NM normally within 48 hours via email. 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 inquire about the status of the request.

Note: Temporary updates to environmental parameters (for a specific time frame and day of operations) are covered by the procedure **Updating CACD data in PREDICT / ETFMS**.

The description of flows in a TFV is the responsibility of the NM based on the FMP request. The NM will not consider any TFV request containing flows with an exempted (EM) role for flights which do not meet the ATFM exemption rules as established by ICAO.

Procedure

Where the CACD data in the above list needs to be modified,

the **FMP staff** shall:

- Using the appropriate form on the Network Operations CACD data forms, send via email the relevant information to the NM AD Supervisor. The email address to be used in this case is nm.ad.spvr@eurocontrol.int.

  The NM AD Supervisor will forward the request to the Pre-tactical SNOC if it requires an operational Network impact assessment. In such case,

  the **Pre-tactical SNOC** shall:

- Assess any possible impact on the Network.
- Confirm the NM AD Supervisor via email the implementation of the request.
- As soon as a new or modified TFV is available in the CACD, carry out quality control to make sure, in cooperation with the NM AD Supervisor, that the traffic capture is fit for purpose, using PREDICT.
- In the event that the TFV does not perform as required, take appropriate corrective action.
- Update the FMP reference email folder with the requested documentation.

4.4 Simulations

The NM and FMPs can run ATFCM simulations 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 the Network Operations Handbook '**Provision of CACD Data'**.

4.4.1 Simulation Request

Strategic ATFCM simulations cover the timeframe D-7 until 3 years before the affected date.

All requests for Strategic ATFCM simulations are centralised and processed according to the procedure described below.

Procedure

The **FMP staff** shall:

- Send all requests for strategic simulations to the NM Strategic section.
- Give at least 3 months' notice before the required deadline for large scale simulations.

The **NM Strategic staff** shall:

- Carry out an assessment of each request, including the scope of the simulation, which simulation tool to be used (NEST or SIMEX), and the time required to get the results.
- For simulations with SIMEX, check if operations staff may be rostered to cover the request. If short notice request, coordinate directly with the NM OM to see if staff can be allocated in time.
- Provide an estimate for the completion of the simulation and inform the requesting person of that deadline.
- Record the request and all details in NM Strategic folders according to NM Strategic internal procedures.
- Results of the simulation should be sent via email, including detailed explanation of the results (either in the text of the email, or via a presentation).

4.5 Scenarios

Scenarios are an ATFCM solution to Network capacity bottlenecks or specific operational needs of an ANSP.

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

- **Level capping scenarios (FL):** carried out by means of level restrictions in the ETFMS or in the CACD through dynamic routeing restrictions.
- **Rerouting scenarios (RR):** diversion of flows to off-load traffic from certain areas; implemented in the ETFMS or in the CACD through dynamic routeing restrictions.
- **Rerouting scenarios (RN):** diversion of flows to off-load traffic from certain areas; implemented in the ETFMS or in the CACD by offering alternative routes to redistribute traffic.
- **Alternative routeing scenarios (AR):** alternative routes which are exceptionally made available to off-load traffic from certain areas,

implemented by regulations with a low rate. The other option is the application of dynamic routeing restrictions in the CACD (precaution should be exercised by enabling the routeing through normally closed airspace without low-rate regulation).

- **EU Restrictions:** CACD restrictions that affect the flight planning phase based on route or airspace closures.

4.5.1 Creation and Maintenance of Scenarios

A scenario can be created after the identification of an operational need. This operational need may be generated by the ANSP / ACC, NM or the AOs based upon encountering a bottleneck and must be clearly specified in the request form when the scenario is requested for creation.

Scenario measures within the area of responsibility of an individual FMP remain the responsibility of that FMP, nevertheless they will need to be coordinated via NM. Scenarios must be:

- pre-agreed as available for use by the relevant affected FMPs.
- validated for correctness of information given.
- fully described and illustrated in the NOP Portal.
- tested each AIRAC for validity.
- individually coordinated for each operational use.
- agreed with AOs, trying to respect their preferences to the extent possible.
- reviewed by the owner FMP at least once per year before the start of the applicability period (February for summer or November for winter) and before each modification of airspace impacting their area of responsibility.

To facilitate this coordination process, it is the responsibility of all ACCs to ensure that communication links are kept up to date.

Guidelines for scenario creation

A scenario can be used to address a demand/capacity imbalance or a complexity issue. If a scenario aims to reduce complexity, an adaptation of capacity could be envisaged for the period when the scenario is activated.

It is recommended to target capturing 3 to 7 flights per hour with a maximum of 10 flights per hour. If the scenario captures a higher number of flights per hour, then NM Strategic can propose to break the scenario down to smaller flows to facilitate acceptance for the on-loaded sectors.

A scenario is not to be used in a routine manner. In case a repetitive application is foreseen (e.g. everyday between 1000 and 1200UTC), another option should be considered (e.g. RAD, MCP...). If after post operations analysis, a repetitive pattern is detected, FMP will be notified and advised to choose another option.

Note: Dynamic routeing restrictions in CACD (RAD restrictions, EURO restrictions…) are an alternative option covered in the '**Airspace Data Operations Manual**'. However, it must be noted that the effect and final result are not the same, for example: RAD restrictions cannot be lifted with the same ease as scenarios, in such case the use of a scenario may result more beneficial for AOs.

Procedure

The **FMP staff** shall:

- Ensure that all requests to create/amend or delete a scenario are submitted to NM Strategic using the request form (via link available on NOP Portal in ATFCM measures).
- Ensure that new airspaces and/or routes are built (coordination with FMP-CACD) before the new/amendment to scenario is requested (since NMOC will need extra resources).
- Elaborate the request for a new/amendment to a scenario with following mandatory elements:
    - Reference location (If the reference location does not exist already then request this airspace to be built directly with CACD/ENV)
    - Targeted flow
    - Suggested alternative routes
    - RAD Restriction to be activated/deactivated with scenario (If the restriction does not exist, it is responsibility of the FMP to request it through its own RAD coordinator)
    - Operational goal
    - Sector to be off-loaded
    - Intended duration of scenario application (at daily level)
    - Applicability period (summer, winter, specific event…)
    - Target captured number of flights
- Submit the request/amendment to NM Strategic staff at least with 21 days' notice

  Major events, SKI and Seasonal scenarios must be submitted 2 months (or as pre-agreed with NM Strat) prior to Season start

The **NM Strategic staff** shall:

- Check whether the FMP provided all the necessary elements to create/amend the Scenario. In case the FMP has not provided all, NM Strategic shall request the missing elements. In case the scenario does not comply with scenario guidelines, NM Strategic can suggest alternatives to facilitate acceptance.
- Perform initial network assessment of the proposed request, including investigation of possible alternative ATFCM solutions
- Suggest best dates of simulation to NM Pretact
- Update the scenario Management Tool and inform NM Pretact

The **NM pre-tactical** team shall:

- Perform a simulation on the days suggested by NM Strategic to determine where the captured traffic should be rerouted, considering RAD and IFPS compliance
- Review the initial network assessment performed by NM Strategic

  Note: In the event the NM Strategic and Pre-tactical network assessments show contradictions, NM Pre-tactical should liaise with NM Strategic to refine the network assessment and, as needed, the operational goal and scenario definition proposed by the requesting FMP. In this case NM Strategic will coordinate with the requesting FMP to clarify the operational goal and scenario definition.
- Provide a map with rerouted flights to NM Strategic

The **NM Strategic staff** shall:

- Perform CDM process
  - Coordinate with all affected FMPs, giving a deadline of 10 days for response
  - Liaise with the AOLC to establish operator preferences to the extent possible if required

Note: If no feedback received before the deadline, the scenario will be considered as approved.

- Notify NM Pre-tactical by e-mail once the CDM process is completed and scenario creation/amendment is approved.
- Share with NM Pre-tactical the relevant contact details of requesting and impacted FMPs
- Add/Update the scenario Management Tool

The **NM pre-tactical team** shall (for more detailed step, see paragraph “Detailed procedure for scenario creation”)

- Open the scenario management tool to check the details
- Assign ID
- Request ADS to create/amend the traffic volume (TV) for the Scenario through a DMR
- Create/amend the rerouting using the relevant traffic volume and store it in the Scenario file
- Produce/amend a map picture for the NOP Portal, detailing off-load and on-load sectors and suggested alternative route(s).
- Create/amend the scenario using the relevant traffic volume and store it in the Scenario file
- If the scenario at time of application requires mandatory coordination with certain impacted FMPs, then a CDM (Collaborative Decision Making) reference is needed; this shall be stored in the Scenario file

- Publish the scenario in the NOP Portal under 'Draft' status which automatically stores the scenario in the NM scenario repository.
- Request SNOCs to review the scenario to ensure that it has been created/amended according to best practices.
- Add/Update the scenario Management Tool
- Inform requesting and impacted FMPs and NM Strategic that the request has been completed to draft and update the scenario Management Tool. A deadline of 7 days will be given for this process. If no feedback is received before the deadline, the scenario will be considered as approved.

The **FMP staff** shall:

- Review the 'Draft' scenario on the NOP Portal
- Provide result of the review by e-mail to NM pre-tactical including any further feedback (i.e. approved or any necessary modifications that are required) before the given deadline

The **NM pre-tactical team** shall**:**

- Upon receipt of the FMPs' review:
    - Approved:
        - change the scenario from 'Draft' to 'Published' on NOP Portal
    - Modification required:
        - amend the scenario according to feedback
        - contact FMP(s) for a second review of the scenario
    - Rejected
        - time-out the scenario and ~~to~~ delete the TV (through DMR)
- Add/Update the scenario Management Tool

Once per year before the start of applicability period (February for summer or November for winter) and before each modification of airspace impacting their area of responsibility,

the **FMP staff** shall

- review the scenarios impacting their area and inform **NM Strategic** if scenarios must be kept, amended, archived or deleted.

4.5.2 Detailed procedure for scenario creation

This section provides the detailed system steps to execute the actions mentioned previously in order to create/modify a scenario.

To perform the steps below, NM Pre-tactical will be required to log into PREDICT with a valid personal identifier and code.

Important: The use of SIMEX is mandatory to create/modify a scenario and the user shall load the most nominal traffic sample (i.e. winter, summer, weekdays and weekends) which would best reflect the purpose of the scenario.

Procedure

Step 1 - Create/amend reroutes using the relevant traffic volume and store it in Scenario file

NM Pre-tactical shall:

- Use the GRRT to create the rerouting measure of the Reference Scenario. The rerouting measure shall present satisfactory results i.e. 80% of the total flights must be rerouted. The 'Simulate RAD' tab of the GRRT should include any relevant RAD information. The 'Publication info' tab represents the information that will be published in the NOP.
- Store the Rerouting measure(s) into the Scenario file (click on 'Scenario Repository' menu and then select the option 'Add To Scenario' and <NEW SCENARIO>). The system will automatically propose a name according to the following naming convention: [Type]_[Number]_[Ref Loc]. scenario.
- Accept the proposed name or modify if necessary.

Step 2 - Produce/amend a map picture for the NOP Portal, detailing the off-load and on-load sectors and suggested alternative route(s).

NM Pre-tactical shall:

- Produce and store a map image in the Scenario Repository
    - Select the printer option 'Scenario Repository' in the Session attributes window
    - From the GRRT used in step 1 above, in the "Selection" Tab, visualize the routes only for the rerouted flights
    - Adjust the zoom and the point size in the Map Display
    - Select the option 'Print' in the Map Display. The system will automatically propose a name following the new naming convention [Type]_[Number]_[Ref Loc].number.jpg. Modify the name if necessary.
    - Save image.

Step 3 - Create/amend the scenario using the relevant traffic volume and store it in the Scenario

NM Pre- tactical shall:

- Use the Regulation Editor to create the regulation using the relevant TV and the tactical parameters setting (DNP parameters, XCD parameters).
- When already known, CDM reference can be inserted here by switching the "MCDM Kind" button to "YES"
- Activate the Regulation measure
- Open the regulation measure again from the "Measure Display"
- Store the Regulation measure(s) in the same Reference Scenario file as the rerouting (click on 'Scenario Repository 'menu and then select the option

'Add To Scenario' and select the name of the previous Reference Scenario file used for the rerouting - making sure **not** to use "New Scenario" again).

- Store the measure in the Scenario Repository by clicking on "Plan + Save"

Step 4 - Create a CDM (Collaborative Decision Making) reference and store it in the Scenario file (when not yet done in step 3 above)

NM Pre-tactical shall:

- Open and edit the Regulation measure by switching the button 'MCDM Kind' to 'Yes'
- Click on 'Scenario Repository' menu and then select the option 'Add To Scenario' and select the name of the previous Reference Scenario file used for the scenario - making sure **not** to use "New Scenario" again).
- Open and edit CDM measure from the Scenario Display window
- Include all relevant CDM coordination information in the CDM Editor, i.e.
    - Mandatory coordination actors
    - Operational Instructions that may proceed
    - Any other relevant information for the future activation of that Reference Scenario
    - Set the status of the measure in the CDM Editor to "Draft" (top part of CDM Editor)
- Store the CDM measure in the Scenario file (by clicking on 'Plan + Save')

Step 5 - Publish the scenario in the NOP Portal under 'Draft' status

NM Pre-tactical shall:

- Open the scenario attributes in the Scenario Display window and change the Publication Status attribute from 'NM internal' to 'Draft'
- Save this action by selecting 'Plan + Save'

Step 6 - Change the Publication status of the scenario from 'Draft' to 'Published' (only after coordination with NM Strat)

NM Pre-tactical shall:

- Open the scenario attributes in the Scenario Display window and change the Publication Status from 'Draft' to 'Published'
- Save this action by selecting 'Plan + Save'

4.5.3 Urgent scenario requests and crisis situation

NM Strategic is only available during office hours. In case there is an urgent need for the creation/amendment of a scenario, it can be built at any time at the discretion of the OM/DOM.

NM Strategic shall:

- Inform via e-mail NM Pre-tactical and OM of the periods of absence of NM Strategic (**Note**: By default, NM Strategic is not available during nights, weekends and bank holidays)
- Put an out of office for the periods of absence requesting the FMPs to contact NM Pretact for urgent scenario requests

NM Pre-tactical shall:

- Create/amend urgent scenarios during the periods of absence of NM Strategic under the direction of the OM/DOM
- Inform NM Strategic of all scenarios built or modified via the scenario management tool.

4.5.4 Procedure for revalidation of reference scenarios

The revalidation of the Reference Scenarios contained in the Scenario Repository consists in performing a series of checks and amending the scenarios if required.

The following checks are done, comparing consistency between CACD information and the Reference Scenario information on CACD VAL/OPS system:

- Validity of ENV elements (based on the ID) used in the Scenario Attributes and Measures
- Consistency between Scenario TV Description and CACD TV Description
- Syntax checks for published information (Suggested alternative routes, Level Constraints)

The revalidation does not automatically check the content of the ENV elements and of the RAD.

Procedure

The revalidation process shall be performed each AIRAC during the Pre-Validation period (at least 3 days before AIRAC) once the new AIRAC tape is loaded on PreOPS.

The maintenance/revalidation of the Reference Scenario is performed on CACD VAL/OPS system.

NM Pre-tactical shall:

- Run the AIRAC (re)validation checks, in coordination with NM Strategic
- Analyse the outcome of the checking ('raw' data file) by using the 'Scenario Repository Revalidation' tool. This procedure, will sort the errors by:
  - type A (for FMP)

    or
  - type B (for NM Pre-Tactical)
- Perform an initial analysis of the revalidation report and send it to NM strategic
  - NM Strategic shall address type A error
  - NM Pretact shall address type B error

TYPE A errors **NM Strategic**	**TYPE B errors** **NM Pre-tactical**
NM Strategic shall • Send **TYPE A** errors by e-mail to each impacted FMP • Request feedback regarding the invalid Scenarios, giving a deadline of 10 days for response **The FMP staff shall** Provide requested feedback within 10 days by email to NM Strategic with the following information: • Reference Scenario Name • Action: Delete / Update Scenario • In case of update, what information to update **Note:** If no answer is received from the FMP within 10 days,	**NM Pre-tactical shall** • Correct the **TYPE B** errors as identified in the 'raw' data file • Inform NM Strategic by e-mail that the correction has been completed

NM will delete the Reference Scenario **NM Strategic shall** • Consolidate all the feedback received from the concerned FMPs into the scenario Management tool • Provide NM Pre-tactical the required actions per scenario (update/deletion) via the scenario management tool **NM Pretactical shall** • If required, request ADS update/deletion of the TV in CACD for the AIRAC change	

NM Strategic and NM Pretactical shall
• Follow the processes described in ATFCM Operations Manual chapter 4.5.1 Creation and Maintenance of Scenarios for
  ○ coordination with the impacted FMP(s), and
  ○ publication	

4.6 Axis Coordination

The Axes are specialised coordination groups that manage operational aspects on a dedicated flow, event or area. Participation in each Axis is defined by the requirements of that flow, event or area. The participation is not limited to the ECAC area.

The Axes area of responsibility covers the traffic flows, interface of ACCs, Air Traffic Flow and Capacity Management (ATFCM), ASM operations (including airspace changes and exercises) and communication issues between all parties involved (i.e. FMP, AO, handling agents, airports, airport slot coordinators, military organisations and the NM as required).

The Axis process is H24 - 365 days per year (except the Ski-Axis).

The Axes shall be managed through a Collaborative Decision Making (CDM) process, which requires the collective agreement of all concerned.

Within the framework of its activities the Axes report to the Operations and Development Sub-Group (ODSG).

The Axes shall be the coordination forum for the management of traffic on the specified Axes from an ATFCM perspective. It will contribute to the fulfilment of the EUROCONTROL Provisional Council Strategic Objectives, as well as strategic objectives of the Network Strategy Plan and the performance targets of the Network Performance Plan (NPP). The Axes shall work within the framework of all NM agreed Operational Concepts.

Currently 4 Axis groups exist. Axis groups usually have a strategic and pre-tactical planning phase with input from the NOP and a post operations phase. The Axes are:

- South-west Axis.
- South-east Axis.
- North-east Axis.
- Ski Axis.

Each Axis, as required, shall have a planning meeting for the next Axis operation period, and a post operations review as detailed in the Axis seasonal operation instruction.

If any participant of an Axis does not attend any meeting / conference then, by implication, they delegate responsibility to the collective agreement of the axis, unless they inform the meeting of their requirements by email in advance, or through representation by a nominee.

Procedure

The **FMP staff** shall:

- Fulfil the Axis coordination process in line with the terms of reference as published on the NOP Portal as approved at the ODSG.
- Following their own pre-tactical planning processes, ensure that by the agreed time all requests for regulations or mitigation measures are sent by email to the NM pre-tactical team. This shall occur:
  - On a daily basis during seasonal peaks.
  - When requested by NMOC staff for special events.
  - In preparation for an Axis conference.

The **NM Strategic staff** shall:

- Fulfil the Axis coordination process in line with the terms of reference as published on the NOP Portal as approved at the ODSG.

During the strategic period,

the **NM pre-tactical team** shall:

- Review all requests for the next Axis operation period.
- Obtain a meteorological update that covers the next operational period for SW Axis, NE, SE Axis and SKI Axis.
- Prepare and distribute by email a proposed Axis plan based on FMP requests, pre-tactical proposals and meteorological information if applicable.

During the strategic period,

the **NM tactical team** shall:

- Actively participate in the yearly planning and provide feedback and expertise.

Following the Axis operation,

the **NM pre-tactical team** shall:

- Examine existing identified problem areas for review.
- Liaise with relevant parties, evaluate and coordinate solutions.

- Collate and if necessary edit Fmd infoRmation ExchangE DNP editor) feedback for external distribution.
- Collate and prepare FMP feedback on the last Axis operational period.
- Identify any new problem areas, unusual occurrences and deficiencies where apparent.
- Obtain the statistics report for that Axis period.
- Publish all relevant information in the appropriate area of the NOP Portal.

5 PRE-TACTICAL AND TACTICAL PHASES OF OPERATIONS

The **pre-tactical** working process **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).

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 pre-tactical team.

To discuss the ATFCM Daily Plan FMPs concerned have an opportunity to participate in CDM conferences organised by the NM.

The **tactical** working process **takes place on the day of operations**. The tactical phase 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, activation of military areas, etc.). This will rely on the provision of the traffic and capacity situation as accurately as possible to all partners.

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

Reporting of events impacting ATC / ATFCM

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 (e.g. runway in use due to work in progress).
- Information on all known problems likely to require ATFCM intervention as soon as that information is available. Airport operators can provide additional information via the Airport Corner, which is accessible to the NM pre-tactical and tactical teams.
- Regulation proposals (creation, modification or cancellation).
- Details of equipment or staffing changes likely to affect capacity.
- Feedback on the effects of ATFCM measures.

During tactical operations the FMP shall notify the NM of:

- 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.
- 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.

- All operational problems that could affect the flow of traffic.

5.1 Updating CACD Data in Predict / ETFMS

Some parameters of the CACD can be temporarily modified for a specific time frame during a day of operations. This procedure is aimed at covering the temporary update of these values during pre-tactical and tactical operations.

Note: For permanent changes to CACD see **Notification of updates to CACD**.

Whatever the organisation, the ANSP overseeing the FMP(s) within a State is responsible for establishing local procedures, ensuring that the NM is in possession of all relevant data during each ATFCM phase, and the quality of that data. This is also stated in Commission (EU) regulation 255 / 2010 article 6.

Updates to these parameters of the ETFMS / PREDICT shall always be made directly by the FMP via B2B or B2C C. More specifically, on D-1, around 17:00 UTC in wintertime (16:00 UTC in summer time) the ATFCM daily plan is transferred from PREDICT to ETFMS. Any updates done before this time are reflected in PREDICT and, afterwards they will be reflected in the ETFMS.

During tactical operations read / write access regarding RWY criteria updates is available to TWRs through CITO.

Note: For DPI transmitting aerodromes, once DPI messages are received for a flight, any updates via B2B or B2C will not have any impact on this flight.

Taxi time updates and actual SID used by aircraft originating from **A-CDM** (from EOBT-3h up to TTOT) are communicated to the ETFMS via DPI messages for each individual aircraft.

Before the first DPI message is received the procedure shall be the same for integrated and standard airports.

The updates in the pre-tactical and tactical phases are made via the B2B or B2C and may only be applicable for a period of the specific day of operations. These updates do not affect the values stored in the NM CACD.

The following environmental data may be updated in the CHMI:

- Capacities;
- Monitoring Values (**MV**);
- Traffic volume activations / deactivations;
- Sector configurations;
- RWY criteria (see **Runway criteria update** for specific details);
- Occupancy Traffic Monitoring Values (**OTMV**).

RWY configurations may also be updated via the B2B or B2C.

Procedure during pre-tactical operations

In their regular checking of environmental data from D-6 to D-1 17:00 UTC in winter time (16:00 UTC in summer time),

the **FMP staff** shall:

- Coordinate via telephone with the NM pre-tactical team prior to major (e.g. increase / decrease number of open sectors, low capacities) or unusual (e.g. airspace closures, weather, security problems…) changes that may have an important impact on the Network.

  Input all updates for applicable environmental data (as listed above) via the B2B or B2C

  Without B2B or B2C

- Where one of the FMPs has **no write access for** B2B or B2C and requires a change to the environmental data **before** the transfer of the ADP from PREDICT to the ETFMS, contact the NM pre-tactical team to request their assistance to update environmental data (except OTMVs).

  Upon such contact by FMP staff,

  the **NM pre-tactical team** shall:

- Check the validity of the data.
- Advise the FMP of any events or information which will or may affect the service provided by its parent ACC(s).
- Assess the Network impact.
- Coordinate with concerned FMPs changes to the ADP.
- Update PREDICT with the changes requested (where the FMP has no access to B2B or B2C.

  In case of an incident experienced in the input of data by AD (e.g. wrong configuration or capacities, missing data etc.),

  the **NM pre-tactical team** shall:

- Inform the NM OM about the incident.
- Log the event in DNP editor.

  The **NM OM** shall:

- File an ENV Incident form.
- Contact the AD Supervisor to address corrective follow-up actions.

Procedure during tactical operations

In their regular checking of environmental data from D-1 17:00 UTC in winter time (16:00 UTC in summer time) and during the day of operations,

the **FMP / TWR staff** shall:

With B2B or B2C **..**

- Coordinate via telephone with the NM tactical team prior major (e.g. increase / decrease number of open sectors, low capacities) or unusual (e.g. airspace

closures, weather, security problems…) changes that may have an important impact on the Network.

- Input all updates for applicable environmental data (as listed above) in B2B or B2C **Without** B2B or B2C Where one of the FMPs / TWRs has **no write access for** B2B or B2C and requires a change to the environmental data **after** the transfer of the ADP from PREDICT to the ETFMS, contact the NM tactical team to request their assistance to update environmental data (except OTMVs).

Upon such contact by FMP / TWR staff,

the **NM tactical team** shall:

- Check the validity of the data.
- Advise the FMP / TWR of any events or information which will or may affect the service provided by its parent ACC(s).
- Assess the Network impact.
- Coordinate with concerned FMPs changes to the ADP.
- Update the ETFMS with the changes requested (where the FMP / TWR has no access to B2B or B2C.

In case of an incident experienced in the input of data by AD (e.g. wrong configuration or capacities, missing data etc.),

the **NM tactical team** shall:

- Inform the NM OM about the incident.
- Log the event in DNP editor.

The **NM OM** shall:

- File an incident report (ENV Incident form).
- Contact the AD Supervisor to address corrective follow-up actions.

5.1.1 Runway Criteria Update

Updating runway criteria may be used to improve the accuracy of flight profiles when there is a runway configuration change at one particular aerodrome (de-icing, slow sequence on the taxiway, etc.) for a specific time period.

FMPs through CIFLO, and TWRs through CITO, are able to modify the runway in use and the taxi time data.

When possible, changes should be introduced at least two hours in advance (before the start time of the change); this provides stability of the slot and profile calculations.

The environmental data subject to this procedure are:

- taxi time;
- runway in use for departures;
- runway in use for arrivals;
- Time to Insert in the Sequence (**TIS**);
- Time to Remove from the Sequence (**TRS**);
- start time of validity;
- end time of validity.

It is possible tactically to update multiple runway activation information. This permits to define / activate Right (R) / Left (L) / Central (C) runways or any other

active runway combination. All the above parameters may be updated for each different (active) runway and the flight profiles are computed (and improved) using this information.

The taxi time may 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	02L	Global	25	15	10

Taxi times can be modified for each flight on an individual basis. When multiple taxi times coming from different sources apply for the same flight, the taxi time used by NM systems is:

- Taxi time for the flight provided via DPI or B2B or B2Celse,
- Taxi time for the runway updated tactically by the FMP or TWR else,
- Taxi time for the flight specified by the AO in the FPL else,
- Default taxi time for the runway specified in the ENV system.

TRS and TIS are parameters used to prevent last minute modifications of the CTOT. The purpose of TRS is to avoid changes in the CTOT for flights already in departure sequence. The value of the TRS specifies the time before which the CTOT will no longer be modified by the ETFMS (CTOT - taxi time - TRS). Similarly, the TIS makes sure that a CTOT improvement cannot be sent at short notice as the aerodrome requires some time to introduce an aircraft in the departure sequence (clock time + TIS + taxi time).

Any runway configuration change will change the taxi time, TRS, TIS, departure and arrival procedures (such as SIDs and STARs). 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.

A modification of taxi time will impact the Flight Activation Monitoring (**FAM**) process.

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

The runway information provided through the DPI/API is useful when an airport can provide a runway prediction, while they are not yet able to provide a SID / STAR. The FMP/TWR should be aware that, once runway information is received in DPI/API and processed, any RWY configuration update (via CHMI, B2B,..) will be ignored for that flight.

This process provides a mechanism to avoid the use of short notice modifications in some cases.

Procedure

Where they have identified a need to update runway criteria,

the **FMP / TWR staff** shall:

- **With** B2B or B2C. Insert as early as possible all required data for the modification in B2B or B2C.
- Notify the NM tactical team as early as possible of the changes to runway criteria if they may pose a significant impact on the Network.
- **Without** B2B or B2C**C** In case of unavailability of B2B or B2CC contact the NM tactical team, provide the data and request them to update the ETFMS.

Upon receipt of such a request from an FMP,

the **NM tactical team** shall:

- In case the FMP reports a change, assess the Network impact and coordinate with concerned FMPs.
- In case of unavailability of B2B or B2C , perform the updates requested by the FMP.

In addition during the period between the change in the taxi time and the start of recalculated slots being generated,

the **NM tactical team** may:

- Approve an extension of the CTOT for any flight with a problem caused by the change of taxi time.

All FMP / TWR staff and the NM tactical team updating the runway criteria shall:

- Ensure that the start time of any taxi time parameter modification shall be set at minimum clock time + 30 minutes in order to avoid short notice SRMs.

5.1.2 Ad-hoc Creation of Traffic Volumes

A Traffic Volume (**TFV**) is an element of the 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.

Any request to create a TFV that has to be used the same day shall be processed by the NM tactical team on duty.

Most of the information concerning the TFVs is semi-dynamic data. It is possible in real time to create a new TFV, provided the Reference Location (**RL**) exists, but not to modify or delete it. Semi-dynamic data may be modified or deleted only in the Load database (prepared for the next AIRAC cycle) but created in the Live database (which is the one currently used). If a TFV is to be based on a new RL, it can be created only for the next AIRAC cycle.

Note: For any other requests on TFVs see **Notification of updates to CACD**.

The description of flows in a TFV is the responsibility of the NM based on the FMP request. The NM will not consider any TFV request containing flows with an exempted (**EM**) role for flights which do not meet the ATFM exemption rules as established by ICAO.

Procedure

Where they identify the need to create a new traffic volume,

the **FMP staff** shall:

- Request the NM tactical team to create a TFV for the day of operations.
- Provide by email or fax details of which traffic should be included in the TFV and call to confirm the reception of the information.
- Coordinate the following details with the NM tactical team if so requested:
  - Activation times.
  - Reference location.
  - Upstream / downstream flows.
  - Flow roles.
  - Any other information.
- After creation of the TFV, make sure, in cooperation with the NM tactical team, that the traffic captured is fit for purpose.

Having received such a request from an FMP,

the **NM tactical team** shall:

- Make sure that the request is fully understood (such as: reference location, upstream / downstream flows, flow roles, monitoring status, etc.).
- Prepare and execute all necessary actions needed for the creation of the traffic volume (including the completion of the DMR and passing it to the AD section for immediate processing).
- Check the activation status in the ETFMS.
- Ensure, in cooperation with the FMP concerned, that the traffic captured is fit for purpose.
- Inform the concerned FMP about the result.
- Inform the NM pre-tactical team about the creation of that TFV.
- Log any relevant feedback in DNP editor.

5.1.3 ANM Traffic Volume Description Missing

Every time a regulation is applied an ATFM Notification Message (**ANM**) is issued containing, in addition to other details, the description of the location where the ATFCM measure is applied.

Procedure

Whenever it is required to regulate a traffic volume with a blank or incorrect description, the **NM tactical team** shall:

- Consult via the NM DOM with the NM pre-tactical team for a description that shall be published in the ANM.
- Fill the appropriate description in the editor.
- Proceed with the publication.

The **NM pre-tactical team** shall:

- Coordinate with AD to input the description to the NM CACD (this is dynamic data that may be changed on-line).

5.1.4 Replacement of a Traffic Volume with a Protected Location

This procedure is applied pre-tactically whenever there is an FMP request to delete a traffic volume with a protected location and replace it by a new one. The purpose of the change is to report the delay characteristics of the new TFV as en-route rather than aerodrome. See **Allocating delay to aerodromes** for further information.

Procedure

Upon notification of such a request,

the **NM pre-tactical team** shall:

- Send to the BIN TFV set the TFV to be replaced.
- Create a new TFV and include (IN) in it a flow with:
  - an upstream element; the airspace (AS) itself and
  - a downstream element; the aerodrome (AD).
- Produce the required Data Modification Requests (DMR).
- Contact the FMP staff where deemed necessary (e.g. to clarify any detail).
- Validate the DMR (in agreement with the request) and send it to AD staff.
- Update the FMP reference email folder with the requested documentation.

5.1.5 RAD ad-hoc Temporary Changes

Major unexpected events which disturb traffic patterns or ATFM measures may sometimes require the suspension of a unit(s) of the RAD for a defined period. The purpose is to accommodate delayed traffic by providing alternative routeings after coordination with the relevant parties.

Procedure

Where a RAD ad-hoc temporary change is required,

the **NM DOM** shall:

- Contact the appropriate FMP to find out who may authorise the change.
- Coordinate with the appropriate contact person and the AD section.
- Once approved, request from the AD section the suspension of the relevant RAD unit.
- Inform the NM OM, the NM AOLO and the IFPS Supervisor about the change.
- Request the NM AOLO to inform AOs about modified flight planning options.
- Send an AIM to inform of the disabled RAD units.
- Log the event in DNP editor.

5.1.6 Manual deactivation of PTR

To achieve a more flexible approach during tactical operations, the operational procedure hereunder describes how to manually revert the Dynamic PTR input made by FMPs.

Procedure

Whenever an anomaly or a negative impact related to the status change of a PTR is detected,

the **NM Tactical team** shall

- Verify if the PTR suspected to be the source of the issue appears in the list of dynamically activated/deactivated PTRs (i.e. ACT_FR) in the Scenario display;
- Reverse the activation/deactivation of the PTR to test whether this will resolve this issue.
- Contact the corresponding FMP owner of the PTR and coordinate the scheduled removal of the PTR

Following coordination with the relevant FMP,

the **NM Tactical team** can:

- Select the deletion of the PTR schedule.

Note: The ownership of a PTR is given by its identifier (e.g. LSAG for Geneva, LSAZ for Zurich, etc).

5.2 Predict Flight Data

Flights processed in the ETFMS are saved and archived on a daily basis. The archived files are used by PREDICT to represent the future demand as reference days.

The reference day is chosen as that which is most likely to reflect the traffic of the day for which the ATFCM daily plan (ADP) is being prepared, usually the same day of the previous week (D-7) or two weeks earlier (D-14). In the cases where this is clearly not the case, e.g. special dates such as Christmas and Easter, or when this reference date was the date of an industrial action or any other special event, the NM pre-tactical team will arrange for the forecast to be recreated using a reference date of their choice.

Every day, DDR2 / PRISME sends to PREDICT the collected Flight Intentions (FI) for the next 6 days (D-6 to D-1). In nominal cases, the data sent to PREDICT is the snapshot of the airport slots data received the night before from the European Association of Airport Slot Coordinators (EUACA) and from the Russian Federation sent by the Main Air Traffic Management Centre (MATMC) for the flow from the Russian Federation to the NM area. The data transfer to PREDICT is planned between 04:00 UTC in wintertime (03:00 UTC in summertime) and 06:00 UTC in wintertime (05:00 UTC in summertime). The flight intentions are used to enrich PREDICT flight data to better represent the expected demand.

In addition, NATS provides forecast information relating to NAT traffic for forecast dates up to 3 days in the future and this is used to update the NAT traffic data in the forecasts for the next three days.

Note: Predict Flight Data is transferred daily into ETFMS alongside the D-1 plan.

5.2.1 PREDICT Data Replacement

On occasions it may be necessary to manually reload PREDICT with flight data from scratch. This might occur:

- when reference data different from D-7 has to be selected for a specific target date (because of a disruption that took place on D-7).
- when flight data corruption is detected in PREDICT due to erroneous DDR updates or any other reason; Two different solutions are applicable:
  - Repair by applying automatic NAT Traffic Replacement and DDR DATA. This procedure is applicable when the restore cannot be done from PREDICT archived demand.
  - Restore by loading saved predict demand. This procedure is applicable when the restore can be done from PREDICT archived demand.

An automated script has been developed to allow safe flight data reload PREDICT for a specific day. The script automates the following tasks:

- Load archived flight data from a specified reference day. This makes it possible to specify a date different from D-7, if the NM pre-tactical team decides to use another reference date.
- Start the corresponding NAT tracks substitution.
- Start the corresponding enrichment with DDR flight intention files.
- Save the flight data from the Simul session into a FLIGHT_BIN export.
- After data quality acceptance from the NM pre-tactical team, replace the flight data in the PREDICT Server after its validation by the NM pre-tactical team.

Procedure for a change of the reference day

At the end of the pre-tactical day,

the **NM pre-tactical team** shall:

- Check with the NM DOM if any event from the current day would make the archived flight data unsuitable for future pre-tactical use.

  This information may also be obtained from the Operations Analysis (OPA) Service.

the **NM pre-tactical team** shall:

- Check if any possible disruptions mentioned would make that day unsuitable for future pre-tactical use.

Where the reference day is not suitable (a disruption such a strike took place on that day) and it has to be changed,

the **NM pre-tactical team** shall:

- Send an email to CSO staff (nm.cso@eurocontrol.int), the NM pre-tactical mailbox (nm.pretact@eurocontrol.int) and the OM (nm.om@eurocontrol.int) using the template (TEMPLATE PART 1 – with the insertion INCident '**NO**' and **'TAC/PROC/DEM82'**) stored in the local directory: \\CFMUFS01.cfmu.corp.eurocontrol.int\GROUP\OPSD\Support\SP\Network Management Cell\NMC OPS DATA\5 Templates
- After the loading process is finished and CSO staff confirm it through email, check that the new data is correct.

- Record in DNP editor information on the substitution for the relevant pre-tactical day and in the pre-tactical handover document.

Procedure for flight data corruption in PREDICT demand (repair by applying NAT traffic replacement and DDR data)

Where the data in PREDICT is found erroneous or corrupted,

the NM pre-tactical team shall:

- Send an email to CSO staff (nm.cso@eurocontrol.int) copied to the LSE (nm.tact.lse@eurocontrol.int), the NM pre-tactical mailbox (nm.pretact@eurocontrol.int) and the OM (nm.om@eurocontrol.int) using the template (TEMPLATE PART 1 – with the insertion 'To be provided by LSE' and 'TAC/PROC/DEM81') stored in the local directory:

  \\CFMUFS01.cfmu.corp.eurocontrol.int\GROUP\OPSD\Support\SP\Network Management Cell\NMC OPS DATA\5 Templates

  The LSE will provide an information file to CSO after due analysis.
- Inform the NM OM.
- Issue an AIM to inform that the replacement process starts.

CSO staff will send back to the NM pre-tactical team the initial email and include location and name of the flight_bin created. Once this email is received,

the NM pre-tactical team shall:

- Check the quality of the demand for the forecast date in a PREDICT / Simul session by loading into it the flight_bin sent by CSO staff.
- If the new traffic sample is not valid, stop the PREDICT / Simul session, inform CSO to abort the loading by filling in the required template (TEMPLATE PART 3) with the noGO decision together with an explanation as to why.
- Coordinate with TACT LSE and CSO staff and decide which demand is to be loaded and repeat the process.
- Once the new traffic sample is valid, then stop the PREDICT / Simul session and ask the CSO staff to continue with the loading the forecast date on the PREDICT server by filling in the required template (TEMPLATE PART 3) with the GO decision.
- Inform the NM OM.
- Issue an AIM to inform that the replacement process has finished.

Procedure for flight data corruption in PREDICT demand (restore by loading saved PREDICT demand)

Where the data in PREDICT is found erroneous or corrupted,

the **NM pre-tactical team** shall:

- Send an email to CSO staff (nm.cso@eurocontrol.int) copied to LSE (nm.tact.lse@eurocontrol.int), the NM pre-tactical mailbox (nm.pretact@eurocontrol.int) and the OM (nm.om@eurocontrol.int) using the

template (TEMPLATE PART 1 – with the insertion 'DOES NOT APPLY' and **TAC/PROC/DEM83**) stored in the local directory:

\\CFMUFS01.cfmu.corp.eurocontrol.int\GROUP\OPSD\Support\SP\Network Management Cell\NMC OPS DATA\5 Templates

The LSE will provide an information file to CSO after due analysis.

- Inform the NM OM.
- Issue an AIM to inform that the replacement process starts.

CSO staff will send back to the NM pre-tactical team an email confirming that the restore process has finished.

the **NM pre-tactical team** shall:

- Validate the quality of the demand for the forecast date.
- Inform the NM OM.
- Issue an AIM to inform that the replacement process has finished.

5.2.2 NAT Traffic Replacement

The daily NAT forecast data shall be communicated by NATS in a file (one file per forecast data). These files shall be exchanged via FTPS. The procedure requires a separate NAT file for each day. Prior to processing, a consistency check is applied on the received files.

The automated NAT flow replacement runs on PREDICT at 07:30 UTC and attempts to replace the North Atlantic traffic for D-3, D-2 and D-1 in this order.

A separate recovery job runs on the hour and half hour every 30 minutes throughout the day and attempts to run the NAT replacement if not already done, e.g. because the NAT files had not yet been provided.

Usually the NM pre-tactical team does not execute the manual replacement of NAT traffic on D-3, D-2 and D-1. However, exceptionally the NM pre-tactical team shall apply the manual replacement (procedure described below) of NAT traffic under the following circumstances:

- Processing of NAT traffic for a SIMEX stand-alone simulation.
- Processing of NAT prediction file for D-1 / D-2 not received.
- Processing of NAT prediction file for D-3 not received or received after 15:00 UTC.
- Any other scenarios where the automatic replacement of NAT traffic cannot be applied.

If the files are valid the confirmation mails will be sent on reception, at revised submission time and when processing is completed.

There is no 'cut-off' time for processing D-2 or D-3 NAT files.

Automatic processing of NAT files - mails

The automated procedure will send mails to the forecast originator (NATS) and to the NM pre-tactical team as below:

- A mail will be sent for each received NAT forecast file if the file sent is valid in syntax, in content, it is not a duplicate, and no errors are found during the reading or during the writing on the OPS FTPS.

- If the files are valid the confirmation mails will be sent at the reception and when processing is complete.
- Once the automatic NAT replacement process is completed, the flight intentions process is triggered for D-2 and D-3.
- If D-3 file is not received by 15:00 UTC (only for D-3) an email will be sent informing of the lack of data.
- In case of any anomaly detected (format / content) in the received files a mail will be sent with two different parts. The first part presents the error type and the second part presents the file content. The subject of the email is 'Problem detected with NAT replacement submission file'.

Automatic processing of NAT files - alarms

The automated procedure will send alarms to CSO as below:

- A critical alarm is sent to the CSO at 15:00 UTC if the NAT file for D-3 is still not present on the OPS FTPS by this time.
- A critical alarm is sent to the CSO from 11:00 UTC onwards if the recovery job tries to perform NAT replacement on the forecast for D-1 after this time.
- Note that no alarm will be raised if the D-2 or D-3 files are not present on the OPS FTPS at 11:00 UTC as files for these forecast days are optional.
- A critical alarm is sent to CSO in the 5 minutes following the reception of received files with detected anomalies.

Procedure

Each day, during pre-tactical operations,

the **NATS staff** shall:

- Load on the OPS FTPS server a file containing the expected traffic on D-3 before 15:00 UTC, although it is still processed if received later (but an alarm will be raised).
- Load on the OPS FTPS server a file containing the expected traffic on D-2 if an update to the prediction is required. There is no deadline time in this case.
- Load on the OPS FTPS server a file containing the expected traffic on D-1 before 10:30 UTC to ensure that it is processed before 11:00 UTC.
- When required by a change of circumstances, provide a subsequent NAT file for each day and apply a consistency check on the files prior to processing.

In case the file containing the prediction in D-3 is not received before 15:00 UTC, an email will be sent informing of the lack of data, if NATS does not reply within the next 10 minutes a flag for potential issue will be raised (no alarm raised). In such cases,

the **NATS staff** should:

- Contact the NM pre-tactical team for investigation.

The **NM pre-tactical team** shall:

- Check with CSO staff if and why the process has failed.
- Take any corrective action that might be required.

In case of need to **manually substitute the NAT traffic** (according to the circumstances above),

the **NM pre-tactical team** shall:

- Set up PREDICT to the correct date for the replacement day.
- Obtain the specified files for Eastbound and Westbound replacement dates from the email received from NATS.
- Ensure the selection criteria are correctly input.
- Replace the existing NAT traffic with the updated NAT traffic (ensure both Eastbound and Westbound flows are replaced).
- Apply the latest DDR flight intentions following the correct order (see **Updating PREDICT with DDR flight intentions**).
- Log the event in DNP editor.

5.2.3 Updating PREDICT with DDR Flight Intentions

Every day PREDICT tries to process FI files sent from DDR2 / PRISME. The first attempt to apply the files occurs at 05:00 UTC and after that, if it did not succeed, PREDICT tries to process the files every two hours for the rest of the day.

The check for a complete set of intention files is executed daily at 11:00 UTC. For D-1, the automatic updating of flight intentions is not applied if the files are received on D-1 after 11:00 UTC. In this case no alarm is sent to CSO but an email warning is sent to the NM pre-tactical team.

If PREDICT receives flight intention files for D-2 to D-6 missing at 11:00 UTC or later they will be processed and no alarm or email will be generated.

The automated NAT flows substitution applied on D-3, D-2 and D-1 to reflect the forecasts sent by the NATS, also triggers the DDR FI update for the corresponding day(s). The FI will be applied for both the corresponding forecast day and the day before. This is required to enrich the cross-midnight NAT flights added during the replacement.

There is also a possibility to apply the FI update manually, however under normal circumstances no specific action is required from the NM pre-tactical team as the procedure is fully automated.

The impact on intention files caused by a strike at a coordinated airport will automatically be corrected in the traffic forecast by the flight intentions received.

In case manual changes or flight deletions have to be applied by the NM pre-tactical team on the flight data (D-6 to D-1), note that the next cycle of the DDR2 / PRISME injection might override the manual changes.

Procedure

Each day,

the **NM pre-tactical team** tasked with checking the traffic forecast shall:

- Ensure that the flight intentions have been updated in the traffic forecast. An email will be received from PRISME support if there was a problem with the flight intentions produced by PRISME.

- If no flight intentions are generated at D-6, decide either to load them manually or leave it for the next automatic overnight update for D-5.
- Where the decision on the previous item was to manually load them, then load the flight intentions from the FTPS_PREDICT folder.

At D-6 and **in case a disruption was reported the previous day** (D-7),

the **NM pre-tactical team** shall:

- Check if the disruption has been corrected by the flight intentions.
- If the disruption has not been corrected, replace PREDICT data with a new reference day (procedure **Predict data replacement**).

5.3 Traffic Load Monitoring

Monitoring the traffic load is a joint responsibility between the NMOC and FMPs unless otherwise agreed.

The MV is the agreed number of flights accepted to enter into a reference location per rolling hour beyond which coordinated actions may be considered between the concerned parties in order to better balance the traffic load.

Any defined MV for any TFV (sector, airspace, point or aerodrome) may be modified.

ATC capacity should be expressed as the maximum number of aircraft, which can be accepted over a given period of time within the airspace or at the aerodrome concerned.

In order to minimise the number of 'false' indications (red / orange) and to better reflect the actual balance load / capacity, the figure to be used in the ETFMS shall be the number of flights the FMP can accept. The updates can only be applicable for a period of a specific day of operations and do not affect the values stored in the CACD.

Procedure

Where the NM Agreement (or an OI) with an ACC defines a joint responsibility for monitoring,

the **NM pre-tactical team** during the pre-tactical phase and the **NM tactical team** during the tactical phase shall:

- Compare demand with the monitoring value of TFVs associated to:
  - active configurations sectors;
  - aerodromes;
  - set of aerodromes;
  - significant points;
  - additional sectors that are not a part of current configurations as required.
- Monitor the load and coordinate any action with the concerned FMP when the load is above declared MV.
- Request to update MVs in PREDICT / ETFMS if the FMP agrees to handle more traffic than initially agreed, or has to change the MV for any reason in its area of responsibility.

- 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.
- Not be responsible for any potential overloads if the FMP does not update the configurations and MVs as appropriate.
- Log the event in DNP editor in case of any disagreement to update the MVs.

In their area of responsibility,

the **FMP staff** shall:

- Compare demand with the monitoring value of TFVs associated to:
  - active configurations sectors;
  - aerodromes;
  - set of aerodromes;
  - significant points;
  - additional sectors that are not a part of current configurations as required.
- Take appropriate action when excesses of demand over monitoring value are detected such as:
  - Coordinate changes to ATC staff disposition to increase capacity on affected sectors.
  - Discuss with the NM optimum sectors configuration (e.g. use of OPTICON).
  - Open additional sectors.
  - Coordinate temporary additional capacity as required.
- Introduce MV updates into the PREDICT / ETFMS system via B2B or B2C.
- Monitor the load and coordinate any action with the NM Tactical / NM pre-tactical team when the load is above declared MV:
  - Coordinate with NM Tactical / NM pre-tactical team the implementation of scenarios.
  - Request the NM Tactical / NM pre-tactical team the implementation of a regulation indicating the appropriate regulation reason.
- 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.
- Take full responsibility of load monitoring and potential overloads in case of inappropriate update of sector configurations or MVs.

Where the NM Agreement (or an OI) with an ACC defines that the FMP is solely responsible (either fully or for a part of the day) for monitoring in their area of responsibility,

the **FMP staff** shall:

- Monitor all TFVs associated to:
  - active configurations sectors;
  - aerodromes;
  - set of aerodromes;
  - significant points;

- additional sectors that are not a part of current configurations as required.

At all times, **when regulations are applied**, the **monitoring** of the traffic loads, flight lists and delays are a **joint responsibility** between the NM and the FMP.

5.4 Management of Simulation Requests during PRE-TACTICAL / TACTICAL Operations

The simulation with SIMEX enables the NM pre-tactical team and Tactical staff to test and fine tune the application or cancellation of regulations, rerouteing and level capping scenarios before applying them to live traffic. This action aims at assisting the ATM partners in their decision making process such that the number of regulations causing the minimum impact will be used and that it is compatible with the current network situation.

SIMEX reduces risks of applying wrong or less optimal measures and avoids 'trial and error' on the 'real' ETFMS server.

The ATFCM simulations are performed within the NMOC and are limited by their time of creation and specific purpose. They are valid only for the specific geographical area, the intended audience and the period of interest.

External simulations via B2B or B2C , will be automatically stopped/closed 2 hours after the last user update. This is due to a finite number of simulations slots and in order to accommodate more external simulations users.

Procedure during pre-tactical operations

The **FMP staff** requiring a simulation shall:

- Contact the NM pre-tactical team with their request.

Upon reception of a request from the FMP or NM Strategic staff,

the **NM pre-tactical team** shall:

- Prioritise the requests if too many requests are received.
- Allocate NM pre-tactical team for the simulation requested.

The **NM pre-tactical team** assigned to this task shall:

- Configure the workstation, the appropriate flight data, the ATFCM measures and any other required configuration.
- Start the simulation.
- Ensure that the simulation is carried out in line with the request.
- Publish the simulation to ensure visibility.
- Communicate the simulation result to the originating FMP and coordinate any further action (modification to the simulation, implementation of ATFCM measures…).

Procedure during tactical operations

The **FMP staff** requiring a simulation shall:

- Contact the NM DOM with their request.

Upon reception of such request,

the **NM DOM** shall:

- Prioritise the requests if too many requests are received.
- Allocate NM tactical team for the simulation requested.

The **NM tactical team** assigned to this task shall:

- Configure the workstation, the appropriate flight data, the ATFCM measures and any other required configuration.
- Start the simulation.
- Ensure that the simulation is carried out in line with the request.
- Publish the simulation to ensure visibility.
- Communicate the simulation result to the originating FMP and the NM DOM and coordinate any further action (modification to the simulation, implementation of ATFCM measures…).

5.5 Management of the ATFCM Daily Plan (ADP)

The ADP is a proposed set of tactical ATFCM measures prepared pre-tactically and agreed between all partners concerned to optimise the European Network. It covers a 24-hour period (the day prior to the day of operation) for each day.

Normally the ADP starts as a draft on D-2 and it is finalised and promulgated on D-1 by means of the ATFCM Notification Message (ANM) and the INP. During tactical operations the ADP is further modified according to the developments of the day.

5.5.1 D-2 Draft

The NM has coordinated the following procedure with FMPs as the first steps creating the ADP.

Procedure

On D-2 the **NM pre-tactical team** shall:

- Ensure they are fully briefed on the Network situation before preparing the draft D-2 ADP.
- Ensure the correct date is selected in PREDICT.
- Monitor the sector configurations and if not present, coordinate with the concerned FMP(s).
- Ensure the appropriate PREDICT scenario reference plan is selected as a basis for the new plan.
- Ensure the ‘standard’ measures (such as regulations derived from current OIs and procedures in the manual), if any, are implemented according to their validity.
- If appropriate, coordinate with FMPs where overloads may occur and propose any possible alternative to regulations.

- Ensure the pre-requests for regulation(s) by the FMPs are implemented or flagged for D-1 attention.
- Incorporate known information that will affect the ADP (continuation of a previous event, beginning of a new event).
- Make an initial analysis of the sector loads.
- Prepare a draft Network Brief in DNP editor.
- Highlight issues for pre-tactical attention for D-1 in DNP editor.
- Prepare a draft INP.

On D-2 **FMP staff** shall as a minimum (unless excluded by specific local agreements):

- Monitor the load and configuration of their sectors.
- Coordinate with the NM pre-tactical team where overloads may occur.
- Propose changes in configuration, or any other alternatives, in order to meet demand where possible.
- Request a regulation where no other possibility is available.

5.5.2 D-1 Plan

The D-2 draft of the ADP is further adapted and prepared on D-1.

If an FMP disagrees with the proposed ATFCM daily plan (ADP) or has a different solution, they should contact the NM pre-tactical team to discuss the proposals and any revisions they request as soon as possible to facilitate completion of the ADP.

Procedure

On D-1 **NM pre-tactical team** shall:

- Continue with the construction of the ADP (D-1 plan from D-2 draft).
- Routinely monitor the Status Display and any request from FMPs.
- Assess FMP requests and discuss any issues directly with the FMP.
- In the event of an FMP-requested regulation that is considered in contradiction to the Network performance or AO intentions, conduct a CDM process. If an agreement cannot be reached, the FMP's request shall be implemented and, if necessary, the event recorded in DNP editor for post operations follow-up.
- Make a complete analysis of the anticipated Network situation.
- Ensure 'hot spots' are identified.
- Investigate possible solutions to achieve a more beneficial Network effect and, following coordination with affected FMPs, implement them into the plan.
- Ensure that by no later than 12:30 UTC in wintertime (11:30 UTC in summertime) on D-1, the ADP, based on FMPs requests and the Pre-tactical proposals, is updated in PREDICT.

  Note: If no communication is received by 13:30 UTC in wintertime (12:30 UTC in summertime), it will be considered that all FMPs are in agreement with the proposed ADP.

- Continue a CDM dialogue after this time with those FMPs where significant changes to the original plan have been introduced.

- Evaluate all requested measures for their impact on the Network.
- Coordinate any Network or local issues with all relevant parties in a timely manner.
- Ensure the internal briefing document in DNP editor is fully updated, accurately reflects the ADP, identifies 'hot-spots' and contains any additional information that may assist tactical operations.
- Ensure the INP is fully updated with pertinent information from the ADP that may assist the user during tactical operations.
- Transfer the ADP from PREDICT to the ETFMS at 17:00 UTC in wintertime (16:00 UTC in summertime). After the transfer, any amendments to the plan must be done in the ETFMS.
- Send the INP.
- Release the Network Brief in DNP editor.
- Continue to update the Network Brief and the INP if new information is received.

The **SNOC** responsible for the D-1 plan shall:

- Communicate daily to the OM (or to the DOM if the OM is absent) whenever the D-1 regulations are transferred into the ETFMS.

On D-1 **FMP staff** shall (unless excluded by specific local agreements):

- Access via B2B or B2CC and evaluate the draft ADP.
- Check the accuracy of their sector configurations, activation periods and MVs for correctness, as displayed in PREDICT.
- Update their information via B2B or B2C (see **Updating CACD data in PREDICT / ETFMS)** no later than 12:30 UTC in wintertime (11:30 UTC in summertime).
- Request implementation of regulations and scenario measures to the NM pre-tactical team by email if further coordination is needed.
- In all cases of coordination with the NM pre-tactical team, allow sufficient time to permit discussion between 12:30 and 13:30 UTC in wintertime (11:30 and 12:30 UTC in summertime).
- Where FMPs have to delay their input, contact the NM pre-tactical team to advise them of this.

5.5.2.1 Regulations Applied Pre-Tactically as a Precautionary Measure

To ensure that precautionary regulations are implemented only when necessary, there is a need to cover potential tactical demand peaks up to 09.00 UTC of the next day. The NMOC will continuously assess the need for these regulations while monitoring for overloads and coordinating tactically.

Procedure

When an FMP requests the application of a regulation during pre-tactical operations, as a precautionary measure and without necessarily resolving an overload issue,

The **FMP staff** shall:

- Communicate and coordinate with the NM pre-tactical team, the TVs, the time period, the acceptance rate and the regulation reason.
- Ensure that this request concerns only the period between 00.00 and 09.00 UTC on the day of operations.

The **NM pre-tactical team** shall:

- Activate the regulation.
- Log any relevant details in DNP editor for the NM tactical team attention (Network Brief) and list ATFM regulations refused at D-1 (traffic volumes and requested application time).
- Ensure that there is no precautionary ATFM regulation applied with start time after 0900 UTC.

During tactical operations,

The **FMP staff** shall:

- Evaluate the effectiveness of the regulation and Contact the NM tactical team to either:
  - Request a cancellation, in case the regulation is no longer necessary, or
  - Request the application of a new regulation according to Chapter 5.6.1.4. of the ATFCM Operations Manual.

The **DOM on duty** shall:

- Assess the load for all the TVs listed by the NM PRETACT team in DNP editor, and
- Coordinate with FMP in case an ATFM regulation is effectively required.

The **NM tactical team** shall:

- Assess the load for all listed TFV in DNP editor
- Assess the network impact,
- Cancel the regulation in ETFMS, or
- Apply a new regulation as per the request of the FMP,
- Provide any relevant feedback in DNP editor.

5.5.3 Creation of the Initial Network Plan (INP)

The Initial Network Plan (INP) is a document (replacing the former Network News) produced by the NM pre-tactical team and distributed via the NOP Portal. It is produced on D-1 to detail the D-1 ATFCM Network plan and to give advanced and additional information on relevant events that are foreseen to have a significant impact on flight operations and / or ATC on the following day:

- a description of regulations which are likely to give rise to significant delays.
- specific restrictions for special events.
- route segments where zero rate flows have been imposed.
- meteorological information (produced by the NM MET Specialist on D-1);
- information on airports availability
- and any other relevant information on the European Network.

Procedure

Each day,

the **NM pre-tactical team** shall:

- Ensure the correct title and relevant validity dates.
- Include only relevant and valid information from the ADP.
- Review with another NM pre-tactical team member to check the INP prior release to verify its accuracy and completeness.
- Upload the INP onto the NOP Portal after 17:00 UTC in wintertime (16:00 UTC in summertime).
- Identify possible revisions; corrections or additional new information that needs to be added.
- Update the INP and promulgate those revisions if needed (via NOP Portal).

5.5.4 Creation of the Network Brief

The Network Brief is an internal NM document used:

- as a repository of long-term events / procedures to be used for coordinating measures with individual FMPs.
- to transfer knowledge from the NM pre-tactical team to tactical operations of both:
  - long-term events / procedures,
  - the coordination which took place to prepare the measures applied pre-tactically for the ATFCM Daily Plan.
- by the NM tactical team to record the reasoning behind decisions taken during the day of operations.
- for post operational analysis of events.

The Network Brief is distributed via DNP editor.

Procedure

Each day,

the **NM pre-tactical team** shall:

- Include only relevant and valid information from the ADP.
- Include any comment or information that may ease the handling of the ADP by NM tactical team.
- Release the Network Brief in DNP editor, usually at the same time of the transfer of the ADP from PREDICT into the ETFMS, 17:00 UTC in wintertime (16:00 UTC in summertime).
- Identify possible revisions; corrections or additional new information that needs to be added.
- Update the Network Brief and promulgate those revisions, if needed, via DNP Editor.

5.5.5 Transfer of the ADP from PREDICT into the ETFMS

The ADP plan is held in the PREDICT system, each day the plan has to be manually transferred to the ETFMS in preparation for the following day's tactical operation.

Both a PREDICT and an ETFMS workstation are required.

The external user write access to PREDICT is set to stop at 17:00 UTC in wintertime (16:00 UTC in summertime). The read access is possible at any time.

Note: Late information received pre-tactically may delay the transfer. If this occurs a decision will be taken as to the most appropriate system to update with this **information.**

Procedure

The **NM pre-tactical team** on D-1 shall:

- Check that the ADP is completed and ready and export it at 17:00 UTC in wintertime (16:00 UTC in summertime).
- Import the ADP plan into the ETFMS.
- Check and resolve any error messages generated during the export or import stages of transfer.
- Check the ETFMS for the reference day to ensure the data has been correctly and completely transferred.
- Inform the NM OM or the NM DOM that the plan is active in the ETFMS.

5.5.6 Tactical Management of the ATFCM Daily Plan (ADP)

The NM tactical team are in charge of managing the ADP during the day of operations using the ETFMS workstations.

Any modification to the regulation plan (new plans, changes, etc.) is reflected in the ADP and the ANM amendment is prepared automatically, ready to be published and sent.

Should there be a need to adapt the ADP, it shall be done through a CDM process.

Procedure

During tactical operations,

the **NM DOM** shall:

- Ensure the implementation of the ADP.
- Ensure that all NM tactical team members adjust the plan if necessary, following the CDM process with the relevant parties.

5.5.7 Tactical Operations Feedback

During tactical operations the NM tactical team shall continuously evaluate the ADP and provide feedback for post operations analysis. FMPs are invited to forward their views and comments on the ADP.

The feedback itself should be descriptive and briefly evaluate the impact of tactical ATFCM actions on the Network (positive or negative) and events. The timing of events to ensure Operations Analysis (OPA) Service may follow-up during the post operations phase for clarification, further investigation and actions should be noted. The feedback should be signed to ensure post operations staff may follow-up for clarification and further investigation

The tool used to input the feedback for the NMOC is DNP Editor, which is an internal application. DNP Editor provides a means of operational communication between tactical and pre-tactical teams. The DNP Editor also supports the NMOC in providing an overview of the network situation (network plan) for the following day (pre-tactical) to external stakeholders, primarily AO, FMP, and TWR. This plan is published as a PDF document on the public NOP Portal.

As DNP Editor feedback is normally written in real time or is time constrained it is accepted that the information may be superseded by events. However, in order to assess how a situation developed such feedback provides an insight into the decision making process.

Procedure during pre-tactical operations

The **NM pre-tactical** team shall:

- Review any relevant tactical feedback introduced in DNP Editor by the NM tactical team and take the appropriate action where necessary (unexpected operational issues or problems with the ADP during the previous days of operations).
- Incorporate all relevant feedback data in DNP Editor regarding the execution of the Axes.

Procedure during tactical operations

The **FMP staff** shall:

- Communicate their feedback on the ADP (if any) to the relevant NM tactical position (e.g. incorrectly pre-tactically defined regulations, scenarios or reroutings).

The **NM tactical team** shall:

- Provide clear and concise feedback in DNP Editor on any significant changes to the agreed ADP or unforeseen events and the reasons why these took place (staffing, weather, industrial actions or any unexpected event impacting operations).
- Propose new techniques, ideas and suggestions.
- Collect feedback from FMPs and log it in DNP Editor.

5.5.8 Severe Weather Assessment

The procedure details the processes to identify, alert, communicate and monitor weather conditions likely to impact ATC capacity and flight profiles. It provides data for NM to share expectations with ATC authorities in an endeavour to prompt a review of potential impact and planned mitigation responses at aerodromes or in en-route airspace (if considered necessary), in order to protect ATC as far as possible from excess workload and provide time for customers to explore operational options and optimise flight efficiency.

Definition of Severe Weather (for the purposes of this procedure)

En-route operations:

- Winter / summer storm.
- Convective activity (CB: isolated, occasional or frequent, with or without lightning).
- CAT FL290+.
- Wind (jet stream, Approach winds 3000').

Airport operations:

- Severe winter / summer storm.
- Convective activity: (CBs: isolated, widespread cells with or without lightning).
- Strong and/or gusting winds: >30kts or local RWY criteria.
- Visibility; Low Visibility Procedures (LVPs): (<1500m) / low cloud (200ft).
- Severe precipitation (rain; freezing rain, snow & icing) on runway, or ground infrastructure.

Definition of weather impacting capacity

Definition of weather impacting capacity at:

Airport: Where a weather impact reduces capacity at an airport by 5% or more, when operating at 70% or more of its operating runway or ground capacity, whichever is the lesser, and may result in ground handling complexity, air holding of 20 minutes or more, or impact en-route complexity.

En-route: Where weather reduces capacity by 15% or more, or increases traffic handling complexity**,** and hourly demand is 70% or more of capacity.

TMA: Where weather impact reduces capacity by 10% or more, or increases traffic complexity, restricts / prevents the use of SIDs / STARs, prevents intermediate traffic sequencing or holding in the approach phase.

Areas covered

All en-route and TMAs airspace in the NM area of responsibility will be monitored.

The NM MET Specialist at the NMOC will also monitor the following airports:

EBBR, EDDF, EDDL, EDDM, EDDS, EFHK, EGLL, EGKK, EGCC, EGPH, EHAM, EIDW, EKCH, EPWA, ENGM, ESSA, LEBL, LEMD, LEPA, LFMN LFPG, LFPO, LGAV, LIML, LIMC, LIRF, LOWW, LPPR, LPPT, LSGG, LSZH, LTAC, LTFM.

The list of airports does not exclude the monitoring of other aerodromes if significant delay is envisaged, or a weather phenomenon is identified that may impact large regional areas of Europe.

Additional airports to be monitored in winter (January - April) on Saturdays, Sundays and European public holidays (Ski Axis airfields):

EDNY, LFBO, LFLB, LFLS, LFLP, LFLY, LFLL, LIME, LIMF, LIMZ, LIPB, LIPO, LIPX, LOWI, LOWS, LSGG, LSGS, LSZB, LSZS.

Weather assessment

The weather assessment prepared by the NM MET Specialist is based on TAFs, Metars, any other relevant information from the meteorological provider and weather-related events reported via the Airport Corner. It should include:

- Pressure systems / Frontal activity;
- Wind (upper, surface, 3000ft, Jet Stream);
- Precipitation;
- Thunderstorms / Convective activity;
- Temperature;
- Fog / Visibility;
- Clear Air Turbulence.

ANSP Management Role

The FMP is responsible for local impact assessments and decisions on management, strategy and measures. The NMOC will be available to support the decision-making process and to act on the resulting actions. It is essential that adjacent ATC units or ACCs, if impacted, are part of the decision-making process (NMOC would act as an intermediate partner if required).

In order to apply this procedure, FMPs shall notify to the NM those weather conditions that may impact ATC capacity or air traffic demand, as stated in **Commission Regulation (EU) 255 / 2010** article 6.

Procedure during pre-tactical operations

On D-1,

the **FMP staff** shall:

- Monitor forecast weather threats that could impact capacity (en-route or aerodrome) in their area of responsibility for the following day.
- Communicate with the NM pre-tactical team any weather threat.

- Prepare and coordinate mitigation measures with the NM pre-tactical team.

The **NM MET Specialist** shall:

- Assess the weather in the Network for threats that could impact capacity the following day.
- Brief the NM pre-tactical team and provide continuous updates of any weather threats in the Network. This shall be in the form of a written assessment covering the following day.
- Study and assess the *D-1 CBCF (Cross-Border Convection Forecast) and provide a detailed document and briefing to the NM Pretactical team advising on weather and capacity 'triggers'.
    - 0900 UTC in summer time. (CBCF available only during the summer months from May to October.)
- Assess impactful weather for key airports and during the winter month create a 'Pre-tactical Airport Meteorological Disruption Overview' (PAMDO) matrix along with a bespoke briefing to the NM Pretactical team.
    - 1000 UTC in winter time.
- Coordinate with various MET ANSPs to align D-1 forecasts and potential meteorological impacts, to ensure an agreed network solution.
- After 19:00 UTC, brief the NM tactical team and provide continuous updates of any weather threats in the Network. This shall be in the form of a written assessment covering the next 24 hours.
- Prepare the weather assessment and publish it in the NOP Portal / Network Operations Weather Assessment by:
    - 14:00 UTC in the pre-tactical tab.
    - 19:00 UTC in the pre-tactical and in the tactical tabs.

The **NM pre-tactical team** shall:

- Communicate with the relevant FMP(s) regarding capacity impacting threats identified by the NM MET Specialist.
- Inform the NM MET Specialist on any weather threat warning received from FMPs.

When a **weather threat** is **identified**,

- Coordinate with the relevant FMP mitigation measures.
- Assess the impact on the D-1 plan (e.g. viability of scenarios), including coordination with potentially impacted FMPs and airports.
- Implement the mitigation measures following coordination with the relevant FMP(s).
- Implement RN Scenarios based on CBCF trigger thresholds received from the MET Specialist and inform impacted FMPs.
- Update the INP accordingly to inform stakeholders of the applied measures.
- Inform the Airport Unit via an email to nm.alis@eurocontrol.int.
- Provide feedback in DNP Editor.

Procedure during tactical operations

The **FMP staff** shall:

- Monitor actual and forecast weather threats that could impact capacity (en-route or aerodrome) in their area of responsibility.

- Communicate with the NM tactical team any weather threat.
- Prepare and coordinate mitigation measures with the NM tactical team **at least 3 hours before the predicted weather event if possible**.

The **NM MET Specialist** shall:

- Monitor the weather in the Network for threats that could impact capacity.
- Monitor for any weather-related impacts and advise the NM tactical team on how these are expected to develop based on the forecast and observations.
- Provide written text updates on current weather and impacts to the NM tactical team in order to update the headline news in the NOP Portal.
- Study and assess the D-0 CBCF (Cross-Border Convection Forecast) and provide a detailed document and briefing to the NM Tactical team advising on weather and capacity 'triggers' with any significant changes from D-1.
    - 0530 UTC in summer time (CBCF available only during the summer months usually May to October)
- Assess impactful weather for key airports and during the winter months create a 'Tactical Airport METeorological Disruption Overview' (TAMDO) matrix along with a bespoke briefing to the NM Tactical team.
    - 0630 UTC in winter time.
- Coordinate with various MET ANSPs to align D-0 forecasts and potential meteorological impacts, to ensure an agreed network solution.
- Monitor and collate meteorological data for post-ops analysis comparing forecast weather to actual observations in order to enhance feedback loops and mitigate for the future.
- Brief the NM tactical team and provide continuous updates of any weather threats in the Network. This shall be in the form of a written assessment covering current conditions, and an evolution for the afternoon and evening.
- Prepare the weather assessment and publish it in the NOP Portal / Network Operations Weather Assessment by:
    - 05:30 UTC in winter time (04:30 UTC in summer time) in the tactical tab.
    - 12:00 UTC in the tactical tab.

The **NM DOM / SNOC** shall:

- Communicate with the relevant FMP(s) regarding capacity impacting threats identified by the NM MET Specialist.

When a **weather threat** is **identified**,

- Coordinate with the relevant FMP mitigation measures and, if required, run a SIMEX simulation.
- Assess the Network impact (e.g. viability of scenarios), including coordination with potentially impacted FMPs and airports.
- Ensure that the mitigation measures are implemented following coordination with the relevant FMP(s).
- Inform stakeholders of the applied measures by updating the NOP Portal Headline News accordingly.
- Inform the Airport Unit via an email to nm.alis@eurocontrol.int.
- If necessary, organise a teleconference with ANSP(s), airport(s) and AOs affected.
- Provide feedback in DNP editor.

5.6 ATFCM Measures Management

5.6.1 ATFM Regulations

To ensure that safety is not compromised whenever the traffic demand in an airspace or an aerodrome is forecast to exceed the available ATC capacity, measures such as ATFM regulations shall be coordinated with the relevant FMP and applied by the NM staff to regulate traffic volumes accordingly.

The decision for implementation / cancellation and ownership of the ATFM regulation lies with the FMP. Whereas the final decision on the regulation implementation is for the FMP, the details on the regulation itself should be coordinated with the NM except if otherwise specified through particular instruction.

All flights entering into a regulated TFV during the period of the regulation will be subject to ATFM measures, except if:

- The flight belongs to a flow that is exempted from the regulation by the traffic volume definition.
- The flight departs from outside the ATFCM area and the ATFCM adjacent area.
- The 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.
- The flight is ATFM-exempted.

During pre-tactical operations the NM pre-tactical team shall be responsible for the application of regulations whereas during tactical operations, it shall be the responsibility of the NM tactical team.

A timely notification to the NM tactical team regarding the implementation of a regulation is crucial to ensure the effectiveness of the regulation.

All regulations shall have a reason to provide explanatory information on that regulation to external clients and post operations analysis. Any such cause shall only be taken from those pre-formatted descriptions available in the regulation editor, as the information is automatically taken by the ETFMS to create a delay coding in certain ATFCM messages for possible use by external systems.

5.6.1.1 Network Impact Assessment of Regulations

Using the Network Impact Assessment Display it is possible to evaluate the potential on-load and off-load situation when a regulation is to be applied on ETFMS / PREDICT.

It is possible for NM staff to create / deep rectify a regulation in the ETFMS / PREDICT and:

- Evaluate the impact on (active) traffic volumes and on-load / off-load areas.
- Evaluate the impact on Network delays. The visualisation / computation of this data is saved automatically and is therefore available for performance analysis.
- Visualise the regulations that are pushing traffic inside the rectified / created regulation period and the regulations where the rectified / created regulation is pushing traffic.

5.6.1.2 Regulations Reason

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.

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 reason. However, the final decision for the regulation reason remains the responsibility of the relevant FMP. The cause shall be qualified by use of the pre-defined classification as indicated in the table below.

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. Standard ANM remarks associated to the relevant reason are available from a drop down menu in the regulation editor.

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.

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 (16:00 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 airport ATC problem is responsible for the operational issue.
- Aerodrome capacity for when an airport infrastructure problem is responsible for the operational issue.
- Aerodrome services for when a support service problem is responsible for the operational issue (e.g. fire services, lack of de-icing equipment, ground handling etc.).

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 reason	CODE	Regulation Location	Guidelines for Application
ATC Capacity	C	D	En-Route: Demand exceeds or complexity reduces declared or expected ATC capacity Airport: Demand exceeds declared or expected ATC capacity. The reason for the capacity reduction shall be provided in the ANM remark.
		E	
		A	
ATC Industrial Action	I	D	Reduction in any capacity due to industrial action by ATC staff
		E	
		A	
ATC Routeings	R	E	Network solutions / scenarios used to balance demand and capacity
ATC Staffing	S	D	Unplanned staff shortage reducing expected capacity.
		E	
		A	
ATC Equipment	T	D	Reduction of expected or declared capacity due to the non-availability or degradation of equipment used to provide an ATC service. The type of equipment shall be provided in the ANM remark.
		E	
		A	

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. The reason for the capacity reduction shall be provided in the ANM remark.
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. The event name shall be provided in the ANM Remark.
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. Type of weather phenomena shall be provided in the ANM Remark.
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** – En-route; **A** - Arrival.

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

5.6.1.3 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 Aerodrome services: 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 on-load 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.

5.6.1.4 Apply a Regulation

The initial identification of a need to apply a regulation may come from the relevant FMP or from the NM staff.

Procedure during pre-tactical operations

Where they identify a need for a regulation during pre-tactical operations and before D-1 17:00 UTC in winter time (16:00 UTC in summer time),

the **FMP staff** shall:

- Communicate (as early as possible) with the NM pre-tactical team in order to resolve an overload issue.
- Evaluate and consider possible alternatives to balance the foreseen traffic demand and capacity, such as scenarios.
- Request the regulation if there is no better alternative.
- Coordinate with the NM pre-tactical team the TFVs, the time period, the acceptance rate and the regulation reason.
- Monitor the impact of the regulation on the traffic load.

Where they identify a need to apply a regulation,

the **NM pre-tactical team** shall:

- Communicate (as early as possible) with the FMP concerned in order to resolve an overload issue.
- Suggest the possibility of a regulation if there are no better alternatives.
- Coordinate with the FMP: the TFVs, the time period, the acceptance rate and the regulation reason.
- Decide on other regulation parameters depending on network situation (e.g. window width, pending rate).

Following coordination with the relevant FMP,

the **NM pre-tactical team** shall then:

- Activate the regulation.
- Check load display (ensure that the regulation is correctly applied).
- Log in DNP Editor any relevant details (especially if there is a high impact) for the NM tactical team attention (Network Brief).

Procedure during tactical operations

Where they identify a need for a regulation,

the **FMP staff** shall:

- Communicate (as early as possible) with the NM tactical team in order to resolve an overload issue
- Evaluate possible alternatives and request the regulation if there is no better alternative.
- Coordinate with the NM tactical team the TFVs, the time period, the acceptance rate and the regulation reason.
- Monitor the impact of the regulation on the traffic load and on the flight list.

Where they identify a need to apply a regulation,

the **NM tactical team** shall:

- Communicate (as early as possible) with the FMP concerned in order to resolve an overload issue.
- Suggest the possibility of a regulation if there are no better alternatives.
- Coordinate with the FMP: the TFVs, the time period, the acceptance rate and the regulation reason.
- Decide on other regulation parameters (e.g. window width, pending rate).

Following coordination with the relevant FMP,

the **NM tactical team** shall then:

- Activate and publish the agreed regulation.
- Ensure that the regulation is correctly applied (check load display, slot list).
- Inform the NM DOM in case of a major impact on the Network.
- Communicate unavoidable high delays in one particular regulation to AOs via an AIM and the NOP Portal Headline News.

5.6.1.5 Linking of Regulations

When two regulations are present in the ETFMS they may present a common set of flights. The ETFMS issues slots according to the most penalising regulation (the one giving the greatest delay to a specific flight). Therefore, one of the regulations may force flights into the second regulation. Under these circumstances and to be sure that the slot assigned by ETFMS respects both regulations, the regulations are linked in ETFMS. This action ensures that the slot assigned respect the conditions defined in both regulations.

In some cases it is important that certain regulations are respected regardless of which one is the most penalising one (e.g. where there is a transition between configurations or in some exceptional conditions). The standard linking function of regulations was extended for these specific cases.

Regulations may be auto-linked or manually linked in the ETFMS. Auto-linking shall only be used when a very penalising regulation is forcing flights into other regulations that are to be protected due to operational reasons.

Overlapping of regulations, when splitting or collapsing sectors, shall never be done; it does not improve the spreading and can only cause unnecessary delay.

5.6.1.5.1 Splitting Regulated Sectors

When splitting a regulated sector, if there is an overload in the new sectors, these should be regulated at their monitoring values, from the time they are active, and linked to the original collapsed sector.

Procedure

Where considered appropriate the FMP staff may split regulated sectors under their responsibility. In such cases,

the **FMP staff** shall:

- Introduce the changes via B2B or B2C in a timely manner.
- If an overload is detected in any of the new sectors, decide either to apply ATFCM measures or to let ATC handle the overload locally.
- In case a regulation is needed, coordinate with the NM tactical team and provide all the associated information for the regulation.
- Check the result and coordinate with the NM tactical team in case further action is required.

When splitting a regulated sector, if an unacceptable bunching is observed in one or more of the newly opened sectors,

the **NM tactical team** shall:

- Coordinate on the appropriate measures with the FMP staff (if the FMP staff have not yet reported).
- If a regulation is requested, collect all associated information for the regulation.
- Regulate the appropriate sectors from the time the splitting takes place.
- Manually link the new regulation(s) to the regulation on the original sector(s).
- Check the result and coordinate with the FMP staff in case further action is required.

5.6.1.5.2 Collapsing Regulated Sectors

A change of sector configuration linked to a regulation(s) may make it necessary to collapse sectors within the ETFMS description. Such an action may require regulations to prevent any possible bunching at the end of the original regulation(s). By linking the new regulation to the original one(s) the bunching will be regulated in a controlled fashion. This is to ensure that all flights will have the new regulation as the most penalising one.

When collapsing sectors, if there is an overload, these sectors should be regulated at their MV before they become active, and linked to the original regulation(s).

When collapsing sectors usually the global capacity is reduced, e.g., from 3 sectors to 2 sectors. Therefore sufficient time must be given to enable the traffic that entered the sector(s) during the period with a higher global rate to leave the sector(s). Note that this also depends on sector size (the larger the sector, the longer a time margin is needed), but 10 minutes is an initially recommended value. It is advisable to check the occupancy counts of the regulated collapsed

sector as well, and identify the number and type of flights impacted in order to better assess the time margin needed.

When collapsing sectors it is necessary to stop the original regulation(s) (which have a higher global rate) earlier than the configuration change time, and immediately start the new regulation(s) (which have a lower global rate).

For instance, if the regulated sectors A, B and C have to become a single ABC combined at 10:00, it is advised to regulate A, B and C till 09:50 and start the ABC regulation, linked to the other 3 at 09:50.

Procedure

Where considered appropriate, the FMP staff may collapse regulated sectors under their responsibility. In such cases,

the **FMP staff** shall:

- Introduce the changes via B2B or B2C in a timely manner.
- If an overload is detected in any of the new sectors, decide either to apply ATFCM measures or to let ATC handle the overload locally.
- In case a regulation is needed, coordinate with the NM tactical team and provide all the associated information for the regulation.
- Check the result and coordinate with the NM tactical team in case further action is required.

When collapsing regulated sectors, if an unacceptable bunching is observed in one or more of the newly opened sectors,

the **NM tactical team** shall:

- Initiate coordination on the appropriate measures with the FMP staff (if the FMP staff have not yet reported).
- If a regulation is requested, coordinate all associated information for the regulation, and the time margin given for traffic to leave the sector.
- Regulate the appropriate TFVs taking into account the time margin for finishing and starting the regulations as appropriate.
- Manually link the new regulation(s) to the regulation(s) on the original sector(s).
- Coordinate with the FMP any further fine tuning of the time margin given to reduce delays.
- Check the result and coordinate with the FMP staff in case further action is required.

5.6.1.5.3 Linking Geographically Distant Regulations

Two heavily regulated TFVs, although geographically apart from each other, may share such a significant amount of traffic that one could create a disruption on the other (e.g. bunching, overload, forcing of flights). This can lead to a situation of having an unsolved overload or bunching in one regulation because of flights forced by other regulations. In order to avert this scenario, these regulations shall be manually linked in the ETFMS.

Due to the complexity of the Network situation, in some cases it is not easy to detect geographically independent regulations that are influencing each other and therefore candidates for manual linking. The ‘Influencing Regulations’

feature in the ETFMS advises the user when a regulation is hugely influenced by other(s).

As an illustrative example, a low rate departure regulation in EDD* between 06:00 and 09:00 with significant bunching at the end, and a low rate arrival in GCTS between 12:00 and 16:00. Linking these two regulations would solve the disruption created by the EDD* departure regulation forcing its flights into the GCTS arrival regulation.

When creating / deep rectifying a regulation the Network Impact Assessment will list the regulations that are influenced / influencing by the regulation which is being edited. This data may be used to create the necessary links between regulations.

Procedure

When an applied regulation has traffic bunching or an overload,

the **NM tactical team** shall:

- Determine if there are influencing regulations that push traffic into the regulation under analysis.
- Contact the concerned FMP(s) associated to the bunching and coordinate possible extension of the regulation period in order to smooth the traffic at the end.

In case an agreement is not reached with the FMP, then:

- Manually link the regulations accordingly if they share a significant amount of traffic. Link the regulation having the problem with the one causing it.
- Check if the result is satisfactory.

5.6.1.5.4 Auto-Linking

In the ETFMS a very penalising regulation may force flights into a regulation that shall be protected (e.g. zero rate regulation).

It is not possible or practical to manually link this ‘high priority’ regulation to all other regulations likely to influence it. The auto-link function has therefore been devised to overcome the limitations of the manual linking function.

As opposed to manual linking, auto-link is bidirectional. Auto-linking a ‘high priority’ regulation actually links it to any other existing regulation in the Network and at the same time any other existing regulation is linked to the ‘high priority’ regulation. Consequently, auto-link endeavours to make sure that the ‘high priority’ regulation criteria are always respected.

Auto-linking was not developed to replace the manual linking of regulations, but as an exceptional measure to be used when absolutely necessary.

The auto-link shall only be used for:

- Zero rate regulations (with or without XCD);
- RVR regulations;
- Scenarios (if deemed appropriate according to the kind of scenario applied);

- Industrial actions;
- Very low rate regulations that have to be protected for operational reasons.

It must be noted that:

- It is not possible to manually link regulations that have auto-link enabled;
- Multiple auto-links in the system may produce unusual effects as each auto-linked regulation competes with all other auto-linked regulations present;
- Auto-linking imposes a performance penalty on the system.

Procedure

Wherever a situation exists that may require the use of auto-linked regulations, the **NM tactical team** shall:

- Where possible, consult and follow the specific procedures for the situation involved ensuring that the correct regulations are auto-linked (e.g. industrial action procedures or scenarios).
- Carefully consider the consequences of implementing an auto-link regulation when no specific procedures exist.
- Auto-link the required regulation(s).

5.6.1.6 Modify a Regulation

The decision for modification and ownership of the ATFM regulation lies with the FMP. A timely notification to the NM tactical team regarding these changes is crucial to reduce safety risks.

There are two possibilities to modify a regulation, depending on the scope of the modification: either ‘shallow rectify’ or ‘deep rectify’.

A ‘shallow rectify’ may be used to change a subset of the fields of the regulation editor, without impacting slot-issued flights. In order to publish changes made in the regulation editor it is required to have updates made either in the ANM traffic volume description or ANM remark or regulation reason.

‘Deep rectify’ may change all editable fields, and let the user decide which flights are impacted. In order to publish changes made in the regulation editor in this case it is required to have updates made to at least one of the following fields:

- Regulation period (Start Time or End Time);
- Delay Confirmation Threshold;
- ANM TV description;
- ANM remark.

5.6.1.6.1 Modify the Acceptance rate or Period

Modifications to the time period and the acceptance rate should reflect an improvement or worsening of the conditions, or the necessity to avoid a bunching of traffic at the end of the regulation.

The Network impact of a deep rectification can be substantial, as all slots in that regulation will be recalculated. Caution is advised in these cases, especially if a high proportion of the affected traffic has already been sent SAMs, in order to avoid unnecessary CTOT changes.

Whenever there is a change in the regulation period or the acceptance rate to be implemented, the NM tactical team shall use the 'Deep Rectify' functionality in the ETFMS.

Procedure

When it is required to update the acceptance rate or period,

the **FMP staff** shall:

- Contact the NM tactical team to inform them about the change in the acceptance rate or the time period as soon as possible.
- Provide any additional information to be inserted in the ANM remark.
- Monitor the impact of the update on the traffic load and on the flight list.

Where they identify a need to update the acceptance rate or period,

the **NM tactical team** shall:

- Contact the relevant FMP to propose a change in the acceptance rate or the time period as soon as a possible overload risk is detected.

Following confirmation with the relevant FMP,

the **NM tactical team** shall then:

- Deep rectify the regulation and insert the changes as appropriate.
  Note: In case of a change in the regulation period, the start time of a regulation that has already started shall not be modified.
- Check the traffic load, the delay figures and slot distribution.
- Provide feedback in DNP Editor where appropriate.

5.6.1.6.2 Modify the Regulation Reason

The regulation reason is used to ensure that proper and consistent information is provided to users and also contribute to correct statistical analysis. The regulation reason must accurately reflect the true reason for the regulation. The ANM remark field should also be used to provide additional information on that reason.

The last introduced regulation reason will be the only one recorded for delay attribution. See **Regulation reason** and **ANM remarks table** for more information on regulation reason.

Whenever there is a change to be implemented in the regulation reason or ANM remark, the NM tactical team shall use the **'Shallow Rectify'** functionality. If the acceptance rate has to be modified as well, the NM tactical team shall use the **'Deep Rectify'** functionality.

Procedure

Where it is required to change a regulation reason or remark,

the **FMP staff** shall:

- Contact the NM tactical team to inform them about the change in the regulation reason or remark.

Where such a request is received,

the **NM tactical team** shall:

- Where necessary, coordinate with the FMP on the appropriate regulation reason and remarks to ensure consistency.
- Shallow rectify the regulation with the new regulation reason and any possible needed remark.
- Log the change in the regulation reason or remark and any other feedback in DNP Editor .

5.6.1.7 Cancel a Regulation

A regulation shall be cancelled where it is no longer necessary. The decision for cancellation and ownership of the ATFM regulation lies with the FMP.

The cancellation of a regulation may create a sudden increase in traffic load that, even if handled appropriately by the requesting FMP, may negatively impact other ACCs.

Procedure

Where they decide to cancel a regulation,

the **FMP staff** shall:

- Contact the NM tactical team to request the cancellation of the regulation.
- Check the load after cancellation.

Where they identify a need to cancel a regulation,

the **NM tactical team** shall:

- Assess the Network impact.
- Contact the relevant FMP to propose the cancellation of the regulation.

Where it has been agreed with the relevant FMP to cancel a regulation,

the **NM tactical team** shall then:

- Run a simulation before cancelling the regulation to assess the impact on downstream sectors in case of a very penalising regulation (e.g. low rate due to technical failure, strikes or even staffing).
- Inform adjacent ACCs (or any other negatively impacted ACCs) in case of heavy delays.
- Cancel the regulation in the ETFMS.
- Check the load display.
- Provide any relevant feedback in DNP Editor.

5.6.2 Applying a Mandatory Cherry Pick Regulation

A Mandatory Cherry Pick regulation (MCP) is used as a measure to solve short peaks of demand for a limited number of flights in congested areas. It consists of selecting flights and applying ATFCM measures only to those flights.

MCP may be used in combination with other measures (e.g. scenario) or other options available to the FMP, but traffic capture is limited to flights with an ETO at the Reference Location less than 2 hours in the future.

The identification of the flights to be subject to the Network cherry pick measure shall be carried out by the FMP and the delay for cherry picked flights shall not exceed 20 minutes. For predictability reasons, it is recommended to apply MCP to flights close to the congested area and try to minimize the lead time of the MCP regulation prior the start time of the hotspot. The traffic selection must be at least 30 minutes before EOBT. It is also recommended to monitor the effectiveness of the MCP after cherry picking the selected flights.

Flights already with a CTOT will normally not be selected for cherry picking. However, if the flight is in a regulation within the AOR of the initiator FMP and it is the MPR, the flight can be selected.

In addition, flights departing from A-CDM which are already in a departure sequence ('s' CDM status) shall not be selected.

Flights inside the MCP regulation period are exempted from it. Once the cherry pick regulation is active, new FPLs, late updaters and ATC activated flights with ETO / CTO inside the regulation activation period will continue to be exempted. The cherry picked flights are allocated a unique colour code (pink) in the slot list and flight lists (EHMI / CHMI / NOP).

Procedure

Having decided to use a cherry pick regulation to overcome a possible overload,

the **FMP staff** shall:

- Assess the flight list.
- Identify from the flight list those flights that are causing complexity. If there is more than one flight from the same AO in the peak or if one of the flights is a candidate for FL capping, consider giving the AO a choice of which flight(s) should be subject to the cherry pick measure.
- Provide the following information to the **NM tactical team**:
  - The name of the sector / TFV;
  - Precise time of the occupancy peak;
  - Call sign of the flights to be cherry picked;
  - ETO of the first flight to enter the sector;
  - Required CTO of all flights to be cherry picked.

The **NM tactical team** shall then:

- Check if on-loaded sectors have available capacity.
- Coordinate with adjacent FMPs on what extra traffic they may get and confirm they can safely handle the cherry-picked flights.
- Refuse the operation and report to the requesting FMP if the previous two items are not met.

- Create the cherry pick regulation and cherry pick the flights according to the information provided by the FMP if the first two items are met, ensuring that:
  - The **regulation Start Time** must be **15 minutes before ETO of the first flight** to enter the sector;
  - The **regulation End Time** must be **1 minute after the last required CTO**.
  - The **appropriate regulation reason** is selected and the **ANM remark** shall contain the comment '**Network Cherry Pick**'.
- Cherry pick those flights nominated by the FMP and force them in the slot list to the required CTO.
- Assess the NID to ensure that there is no adverse effect due to the application of the new CTOT to the flight (e.g. Flight pushed in a Zero Rate regulation, new IFPS violations, etc.).
- Provide feedback in DNP Editor.

5.6.3 Applying an Airport Cherry Pick Regulation

The aim of an Airport Cherry Pick regulation (ACP) is to permit a degree of flexibility to the FMPs in order to solve short peaks of demand for a limited number of arriving traffic.

The main target of such improvements are short haul flights, therefore the procedure applies to flights operating entirely within the airspace of one ACC or between two adjacent ACCs. This procedure uses the same mechanisms of the Mandatory Cherry Pick (MCP) regulation as it is described in this manual (see previous section).

The identification of the flights to be subject to the ACP measure shall be carried out by the FMP and the delay for cherry picked flights shall not exceed 20 minutes. For predictability reasons, it is recommended to try to minimize the lead-time of the ACP regulation prior the start time of the congested period and the traffic selection must be at least 30 minutes before EOBT. FMPs shall ensure that the required arrival capacity (e.g. holding) will be available during the peak period.

Flights already with a CTOT will normally not be selected for cherry picking. However, if the flight is in a regulation within the AOR of the initiator FMP and it is the MPR, the flight can also be selected. In addition, flights departing from A-CDM which are already in a departure sequence ('s' CDM status) shall not be selected if there is any other possibility.

Procedure

Having decided to use a cherry pick regulation to overcome a possible overload and mitigate delays,

The **FMP staff** shall:

- Assess the flight list;
- Identify from the flight list those flights that are concerned;
- Provide the following information to the **NM tactical team**:
  - The name of the Traffic Volume;
  - Precise time where the demand exceeds the capacity;
  - Call sign of the flights to be cherry picked;
  - ETO (ETA) of the first flight to arrive at the airport;

- Required CTO of all flights to be cherry picked.

The **NM tactical team** shall then:

- Create the cherry pick regulation according to the information provided by the FMP, ensuring that:
  - The **regulation Start Time** must be **15 minutes before ETO (ETA) of the first flight** to arrive at the airport;
  - The **regulation End Time** must be **1 minute after the last required CTO**;
  - The **appropriate regulation reason** is selected and the **ANM remark** shall contain the comment **'Local Cherry Pick'**.
- Cherry pick those flights nominated by the FMP and force them in the slot list to the required CTO;
- Provide feedback in DNP Editor.

5.6.4 Regulation Proposals via digital means

This procedure introduces the possibility of using digital means as a communication mean, whenever regulation proposals (creation, modification or cancellation) are sent by local FMPs via digital means.

This section covers the case of proposals for ATFM regulations sent for the pre-tactical and tactical phases and for Mandatory Cherry Pick regulations during the tactical phase.

Management of these types of requests by NMOC is the same and independent from the communication channel used by the FMP (B2B or B2C). Nevertheless, when using an external application developed on NM B2B services, users are subject to operational implementing periods that require additional phone coordination, as indicated later in this chapter.

5.6.4.1 Scope of regulation Proposals via digital means

The main objectives of digital requests are to improve coordination speed and traceability, as well as to facilitate the simulation of the measures before their application. Nevertheless, some measures require of initial coordination between NMOC and FMPs.

The following table indicates the type of ATFM Measures that can be requested digitally by FMPs:

	Cherry Picking		**ATFM Regulations**					
	MCP	ACP	FLScenario	RR Scenario	AR Scenario	Regulation with XCD Subperiods	Regulation with Zero-rate subperiods	Other ATFM Regulations
Pre-Tactical	No	No	**Yes**	**Yes**	**Yes**	Yes	Yes	**Yes**
Tactical	**Yes**	**Yes**	No	No	No	No	No	**Yes**

For those measures indicated as "No" in the table above, coordination shall be completed by phone directly with the SNOC position (+32 2 745 19 05).

5.6.4.2 Implementing periods for B2B requests

Accepting activities

When the FMP has performed the necessary developments and is technically ready to send regulation proposals via B2B, the FMP should send an official request to NM.

Any official request to apply the present procedure shall be officially addressed to the NM email address: NM.servicerequests@eurocontrol.int

After the reception of the request, the requesting FMP shall go through a technical and operational validation to identify technical problems and familiarise with the procedure. This validation process should take place during the two months following the reception of the request. Note that if technical or operational issues are encountered this period may be extended.

The validation of the candidature shall be executed following the steps described below:

- A technical validation with the objective of ensuring quality of the implementation on FMP and NMOC sides and correct communication channels.
- Once the technical test is finished, an operational evaluation will take place with operational staff on a testing platform.

Operational implementation - phase 1

During Phase 1 any proposal for creation, modification or cancelation sent via B2B shall be coordinated via telephone by the FMP. This phase should have a duration of three months after which Phase 2 would be entered.

If major problems are identified during Phase 1, extended acceptance activities will be initiated.

Operational implementation - phase 2

Phase 2 will start after Phase 1. At this moment, telephone coordination will not be mandatory except for proposals for XCD regulations (0 rates and RVRs) or for regulations that are part of a set of regulations where the order of proposal acceptance plays a critical role. For example:

- Splitting or collapsing regulated sectors
- Strike regulations
- Recovery periods
- Etc.

Whenever a new FMP starts to apply phase 1, an Information Notice (IN) will be updated accordingly. The IN will be updated as well once the FMP starts phase 2. It will be published internally for NMOC staff and externally via the NOP Portal.

5.6.4.3 ATFM Regulations

As it is described in detail below, all proposal regulations shall be reviewed by NMOC staff, and the active regulations shall be reviewed by the FMP.

5.6.4.3.1 ATFM Regulation Proposal for Creation

Associated procedure: ATFCM Operations Manual 5.6.1.4. Apply a regulation.

1. The FMP may submit a proposal for a new ATFM regulation (PROPOSED) via digital means.

2. The NM pre-tactical / tactical team shall monitor the reception of new ATFM regulation proposals. This is indicated by an alert - green background highlighting of the Measures button.
3. The NM pre-tactical / tactical team shall review the ATFM regulation proposal:
    a. In the Regulation Editor:
        i. Check that the proposal is sent by the relevant FMP;
        ii. Check that the Regulation fields are correctly filled in.
    b. In the History Display, compare Proposal with Regulation version if necessary.

    Note:

    Starting the review changes the status of the proposal to 'COORDINATED'.

    Note:

    In case of local equipment failure, the comment "chaotic situation" can be inserted in the ANM remark field by the FMP. This will ensure that the 'OBT AFTER' is set to 30 minutes before the current clock time, in order to capture as much traffic as possible.

4. The NM pre-tactical / tactical team shall coordinate with the FMP the regulation details via telephone if any modification might be required.
5. In case of incorrect ATFM Regulation proposal Id, the NM pre-tactical / tactical team shall reject the proposal and request the FMP to submit a new proposal with updated Regulation Id.

    The NM pre-tactical / tactical team shall then either activate and publish or reject the proposal. In case of rejection, the pre-tactical / tactical team shall coordinate via telephone with the FMP.

    If rejected, the proposal changes the status to 'ABANDONED' and the regulation is not implemented.

    If activated, the proposal changes the status to 'IMPLEMENTED' and the regulation becomes active and published.

6. The FMP shall visualise the accepted / rejected proposal via digital means.

    Note:

    Active regulation can contain additional fields or coordinated changes applied by the NMOC.

5.6.4.3.2 ATFM Regulation Proposal for Modification

Associated procedure: ATFCM Operations Manual 5.6.1.6. Modify a regulation

1. The FMP may submit a proposal for modification of an active ATFM regulation via digital means that has either been created via a regulation proposal via digital means or directly by the NMOC.
2. The steps 2 - 6 of the ATFM Regulation Proposal for Creation (**Error! Reference source not found.**see above) section are applicable.

5.6.4.3.3 ATFM Regulation Proposal for Cancellation

Associated procedure: ATFCM Operations Manual 5.6.1.7. Cancel a regulation

1) The FMP may submit a proposal for cancellation of an existing active ATFM regulation via digital means.
2) The steps 2 - 4 of the ATFM regulation Proposal for Creation (see above) section are applicable.
3) The NM pre-tactical / tactical team shall then either accept the proposal (cancel the regulation) or reject the proposal. In case of rejection, the pre-tactical / tactical team shall coordinate via telephone with the FMP.

   Note:

   If the proposal is rejected, the proposal changes the status to 'ABANDONDED' and the regulation is not cancelled.

   If the proposal is accepted, the proposal changes the status to 'IMPLEMENTED' and the regulation is cancelled.

4) The FMP shall visualise the accepted / rejected proposal via digital means.

5.6.4.3.4 Regulation naming convention

The general convention that shall be followed for a complete Regulation ID is presented below.

The order of characters of the Regulation ID is:

1	4	2	3

where:

1. Proposed code for the ACC
2. Two characters for the date
3. Optional - One character for the period of the day:
   - E = Early morning (00:00;05:59)
   - M (or D, if M already used) = Morning (06:00;11:59)
   - A (or L, if A already used) = Afternoon (12:00;17:59)
   - N = Night (18:00;23:59)

- X (or Y or Z) = Other (if all other letters are already used)

4. Remaining characters to be used for the regulated traffic volume

In case all letters above are already used, FMP shall coordinate the Regulation ID with the NM pre-tactical / tactical team.

Note: Regulation proposals with Regulation ID equal to existing (terminated) regulations will be rejected.

5.6.4.3.4.1.1.1 Airport Regulation ID

The specific convention that shall be followed for an Airport Regulation ID is similar to the general Regulation ID convention.

1	4	2	3

where:

1. The 4-letter ICAO airport designator.
2. Two characters for the date
3. Optional - One character for the period of the day:
   - E = Early morning (00:00;05:59)
   - M (or D, if M already used) = Morning (06:00;11:59)
   - A (or L, if A already used) = Afternoon (12:00;17:59)
   - N = Night (18:00;23:59)
   - X (or Y or Z) = Other (if all other letters are already used)
4. Character to be used for the type of airport regulation:
   - A=arrival regulation
   - D= Departure regulation
   - G=Global

In case all letters above are already used, FMP shall coordinate the Regulation ID with the NM pre-tactical / tactical team.

5.6.4.4 Mandatory Cherry Pick procedure

Associated procedure: ATFCM Operations Manual 5.6.2. Applying a Mandatory Cherry Pick regulation.

5.6.4.4.1 MCP Proposal for Creation

1) The FMP may create a MCP regulation proposal (DRAFT) via digital means. This permits to:

a. Add flights
b. Analyse the proposal flights before submitting the proposal to NM
c. Remove (add) flights

The list of candidate flight(s) for cherry pick shall include the following parameters:

a. ADEP
b. IOBT

c. Desired CTO / CTOT

2) The FMP may submit a proposal for a new MCP regulation (PROPOSED) via digital means.

3) The NM tactical team shall monitor the reception of new MCP regulation proposals. This is indicated by an alert - green background highlighting of the Measures button.
4) The NM tactical team shall review the MCP regulation proposal:
   a. Acknowledge the notification of removed obsolete cherry picked flights if the notification is displayed. Obsolete proposed cherry picked flights are flights whose ETO has evolved since the submission of the MCP regulation proposal so that their new ETO > proposed CTO, or that they no longer cross the regulated area.
   b. In the Regulation Editor:
      i. Check that the proposal is sent by the relevant FMP;
      ii. Check that the Regulation fields are correctly filled in.
   c. From the Slot List, access the NID and assess the impact of the MCP proposal.
   d. In the History display, compare Proposal with Regulation versions if necessary.

   Note:

   Starting the review changes the status of the proposal to 'COORDINATED'.

   In case of incorrect MCP Regulation proposal Id, the NM Tactical team shall reject the proposal and request the FMP to submit a new proposal with updated Regulation Id.

5) The NM tactical team shall then either accept or reject the proposal.

   If rejected, the proposal changes the status to 'ABANDONED' and the regulation is not implemented.

   Note:

   In this case it is not possible to add any additional flight to the measure. FMP should create a new MCP measure.

   If accepted, the proposal changes the status to 'IMPLEMENTED' and the regulation becomes active and published.

   Note:

   In this case it is possible for the FMP to add additional flights to the measure by creating a proposal for modification (see section below).

Note:

Obsolete flights may be removed at this stage as well (as in step 5.a)).

6) The FMP shall visualise the accepted / rejected proposal via digital means.

Note:

Until the proposal has been accepted, it will not be displayed in the Regulation List, only in the proposal Regulation List.

5.6.4.4.2 MCP Proposal for Modification

1) The FMP may propose to modify an active MCP Regulation by adding flights and modifying or removing previously accepted flights.

   The list of candidate flight(s) for cherry pick shall include the following parameters:

a. ADEP
b. IOBT
c. Desired CTO / CTOT

2) The FMP may submit a proposal to modify an MCP regulation (PROPOSED) via digital means.
3) The steps 3 - 6 of the MCP Proposal for Creation (section above) are applicable

Note: The MCP regulation end time will be adjusted accordingly if the FMP captures an additional flight extending beyond the original MCP end time.

5.6.4.4.3 MCP Proposal for Cancellation

1) The FMP may submit a proposal for cancellation of an active MCP Regulation via digital means.
2) The steps 3 - 4 of the MCP Proposal for Creation (see above) section are applicable.
3) The NM tactical team shall then either accept the proposal (cancel the regulation) or reject the proposal.

If the proposal is rejected, the proposal changes the status to 'ABANDONED' and the regulation is not cancelled.

If the proposal is accepted, the proposal changes the status to 'IMPLEMENTED' and the regulation is cancelled.

4) The FMP shall visualise the accepted / rejected proposal via digital means.

Note:

Once a proposal for MCP regulation cancellation is created, there is no possibility to modify the MCP anymore, except via telephone.

5.6.4.4.4 MCP Regulation Naming Convention

- The naming convention shall be based on the rules defined and agreed in ODSG#34, partially amended during ODSG#56. Specific rules are provided in an attached excel spreadsheet document.
- The general convention that shall be followed for a complete MCP Regulation ID is presented below.
- The order of characters of the MCP Regulation ID is:

0	1	4	2	3

Where:

1) Starting character ‘X’
2) Proposed code for the ACC.
3) Two characters for the date.
4) Optional - One character for the period of the day:

- E = Early morning (00:00;05:59)
- M (or D, if M already used) = Morning (06:00;11:59)
- A (or L, if A already used) = Afternoon (12:00;17:59)
- N = Night (18:00;23:59)
- X (or Y or Z) = Other (if all other letters are already used)

5. Remaining characters to be used for the regulated traffic volume.

- In case all letters above are already used, FMP shall coordinate the MCP Regulation ID with the NM tactical team.

Note: Regulation proposals with ID equal to existing (terminated) regulations will be rejected.

5.6.4.4.4.1.1.1 ACP Regulation ID

The specific convention that shall be followed for an ACP (Airport Cherry Pick) Regulation ID is similar to the general MCP Regulation ID convention.

0	1	2	3

where:

1. Starting character ‘X’
2. The last 3 letters of the 4-letter ICAO airport designator.
3. Two characters for the date
4. Optional - One character for the period of the day:

- E = Early morning (00:00;05:59)
- M (or D, if M already used) = Morning (06:00;11:59)
- A (or L, if A already used) = Afternoon (12:00;17:59)
- N = Night (18:00;23:59)
- X (or Y or Z) = Other (if all other letters are already used)

In case all letters above are already used, FMP shall coordinate the Regulation ID with the NM pre-tactical / tactical team.

5.6.5 Rerouting Flights in the ETFMS

A reroute is an alternative offered to an airspace user in case of substantial delay, unavailability of a filed route or flight efficiency purposes.

What-if Reroute and Group Rerouteing are functions within the NM that are designed to assist the NMOC staff to find viable alternative routes.

The ETFMS considers the routes as well as the possible flight level limitations and gives the consequent result in terms of delay, miles to fly, fuel and route charge information.

Procedure during tactical operations

In case of significant disruption to the Network, and in order to reduce delays in a particular area or assist a flight(s) suffering a disproportionate delay,

the **NM tactical team** shall:

- Identify any flight(s) that are significantly delayed.
- Set in the ETFMS the necessary parameters for the calculation of the reroute.
- Decide on how many flights should be rerouted.
- Coordinate with the responsible NM tactical team member to ensure that the situation is not likely to change / improve in the next couple of hours.
- Assess the NID in order to identify the best CTO(T).
- Coordinate with the FMPs that could be heavily impacted.
- Select the correct option according to the purpose of the rerouteing (e. g. ATFCM, FLIGHTEFFICIENCY, AOWIR).
- Send RRP(s).

5.6.6 Implementation of Scenarios

NM and / or FMP staff use a number of predefined scenarios in order to move traffic flows out of critical sectors / areas and achieve a global decrease of delay or prevent the implementation of regulations. This task is performed by the NM pre-tactical team during pre-tactical operations and the NM tactical team during tactical operations.

These scenarios are prepared in advance (see Creation and maintenance of scenarios) and may be mandatory or advisory. The list of available scenarios is available via B2B and promulgated on the NOP Portal:

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

Scenarios should normally be coordinated and implemented in the pre-tactical phase. When there is a need / request in the tactical phase, it should be investigated whether it is really necessary or if other measures like cherry-picking of individual flights are not sufficient. Scenarios are always auto-linked.

Criteria to be considered are:

- Number of flights captured;
- Implementation should normally be at least 3 hours in the future;
- Where possible the EOBT of the flights involved should be at least 2 hours in the future in order to minimise the risk of late filing for AOs and give them enough time to react.
- It is possible to determine the impact of scenarios based on the following indicators:
- Flying time.
- Distance.
- Route charges.
- Fuel consumption.

The ETFMS produces in a regular basis results on the impact of scenarios and they are sent to the Operations Analysis (OPA) Service for analysis.

Procedure during pre-tactical operations

During pre-tactical operations in the area of responsibility of an FMP,

the **FMP staff** shall:

- When considered appropriate, contact the NM pre-tactical team to request the application of scenarios.
- Coordinate with the NM pre-tactical team the scenarios applicability as well as other possibilities to properly balance traffic demand and available capacity.
- Based on the FMP reason to apply a Scenario, provide:

  1. Regulation reason for the Scenario application;

  2. Additional details to be included in the ANM Remark of the Scenario measure if required (use standard remarks of ATFCM Operations Manual 5.6.1.3 ANM Remarks Table as far as possible).

Having received a request for a scenario from an FMP, or having decided on the necessity of such an action themselves,

the **NM pre-tactical team** shall:

- Examine the problem the scenario is expected to mitigate.
- Evaluate any possible alternative less penalising solutions and suggest them as alternatives.
- If scenario application is necessary, load the relevant scenario and adjust the time parameters and remarks to fit the current circumstances.
- Assess the Network impact.
- Coordinate and agree its use with those FMPs that will be affected.
- When agreed by all affected FMPs:
  - Implement the scenario measure in PREDICT.
  - Set a delay threshold value of 20 minutes.
  - Auto-link the scenario (if deemed appropriate according to the kind of scenario applied).
  - As provided by the FMP:
    - Modify the measure reason “ATC Routeings” to a Scenario application reason;
    - Include details on Scenario application in the ANM Remark field of the measure if required (use standard remarks of ATFCM Operations Manual 5.6.1.3 ANM Remarks Table as far as possible).
  - Include descriptive information on its application in the INP and on the NOP Portal.
  - Include information in the Network Brief to enable NM tactical team to manage its use effectively.
- Check that the applied scenario functions as expected and coordinate any further changes as necessary.
- Where a conflict has been identified between RAD and Scenario, coordinate via CDM process with the FMP. The coordination outcome (e.g. disabling RAD, Scenario cancellation) shall be notified to the **NM Strategic team** via the Scenario Management tool, issue recorded in DNP Editor and the Scenario Repository updated if required.

Procedure during tactical operations

Where the situation requires the application of a scenario,

the **FMP staff** shall:

- Contact the NM tactical team to request the application of that scenario.
- Based on the FMP reason to apply a Scenario, provide:

1. Regulation reason for the Scenario application;

2. Additional details to be included in the ANM Remark of the Scenario measure if required (use standard remarks of ATFCM Operations Manual 5.6.1.3 ANM Remarks Table as far as possible).

Having received a request for a scenario from an FMP, or having decided on the necessity of such an action themselves,

the **NM tactical team** shall:

- Assess the validity of the FMP request (if requested by the FMP) or make sure that the FMP fully understands and accepts the implications of such an action (if proposed by the NM tactical team).
- Assess the impact on AOs.
- Check on-loaded sectors in other relevant areas.
- Inform all relevant FMPs involved of the traffic revision expected during the time of the scenario's validity (CDM process).
- Where an FMP refuses to accept the traffic revision resulting from the application of the scenario, the scenario shall be rejected.

Where all affected FMPs accept the traffic revision:

- Load the appropriate scenario
- Adjust the time parameters and remarks to fit the current circumstances.
- As provided by the FMP:
  - Modify the measure reason "ATC Routeings" to a Scenario application reason;
  - Include details on Scenario application in the ANM Remark field of the measure if required (use standard remarks of ATFCM Operations Manual 5.6.1.3 ANM Remarks Table as far as possible).
- Set a delay threshold value of 20 minutes.
- Auto-link the scenario (if deemed appropriate according to the kind of scenario applied).
- Inform all FMPs involved of the decision and actions taken.
- Check that the applied scenario functions as expected and further coordinate as necessary.
- Where a conflict between RAD and Scenario is identified, coordinate via CDM process with the FMP. The coordination outcome (e.g. disabling RAD, Scenario cancellation) shall be notified to the NM Pre-tactical team.

NM Pre-tactical team shall advise **NM Strategic team** via the Scenario Management tool and record the issue in DNP Editor.

5.6.7 Management of EU Restrictions

Amongst the different flow measures to use in the event of aerodrome or airspace unavailability, the NM has the possibility to apply an "EU Restriction".

The use of EU Restriction offers two main advantages:

- the FPLs are rejected by IFPS, no delay is generated in the ETFMS,
- more accurate traffic capture (out of area traffic, aircraft equipment, military...).

Compared to a zero rate regulation, the EU Restriction will invalidate FPLs, therefore AOs will have to refile avoiding the unavailable period of the aerodrome or airspace concerned. Although the decision to apply an EU Restriction lies with the NM, it will only be done through a CDM process with the concerned FMP after assessing the criteria listed below:

- **Lead Time**: At least 2 hours before the time of effectiveness are required for the measure to be fully efficient.
- **Stability:** It should concern only planned events at strategic and pre-tactical level or major disruptions in tactical operations, where there is evidence that no improvement is expected in the near future.
- **Duration:** This parameter must be seen in conjunction with the stability one but a minimum of 1 hour is considered necessary.
- **Publication:** EU Restriction must be supported by official information (NOTAM, AIP supplement...).

Note: When the aerodrome or airspace unavailability is known in advance, the CDM process should take place between the concerned National Environment Coordinator (NEC) or RAD coordinator, or FMP and the NM AD NOSup.

The assessment and the application of the EU restriction should be done then based only on stability, duration and publication criteria.

Note: For more information on textual description of 'EU' and 'EURO' restrictions, see the relevant chapter of the NMOC Support Manual.

Procedure

When it is notified of an aerodrome or airspace unavailability and an EU restriction might be applied,

Either,

the **FMP staff** shall:

- Collect all relevant information about the above criteria.
- Communicate (as early as possible) with the SNOC on duty to inform of a future aerodrome or airspace unavailability.
- Assess with the SNOC the criteria listed above (lead time, stability, duration and publication).

Or,

the **SNOC** shall (as soon as the event is notified via any means, e.g. NOTAM, phone call, news...):

- Communicate (as early as possible) with the relevant FMP and confirm that they are aware of the unavailability (if the FMP have not reported yet).
- Assess with the FMP the criteria listed above (lead time, stability, duration and publication).

Following coordination between the FMP and the SNOC, if the criteria listed above are met,

the **SNOC** shall:

- Coordinate with the NM AD NOSup the implementation of an EU Restriction. Before enabling the restriction in the NM systems, the NM AD NOSup shall make a FPL validation to ensure it will produce the expected effect.

- Publish information about it on the NOP once the EU Restriction is implemented.

Note: If the criteria listed above are not met, see **Management and recovery of a disruption**.

5.6.8 ATFM Measures on the ATFCM Adjacent Area

FMPs of Adjacent Areas may request the NMOC to apply ATFCM measures for the airports within their FIR or for significant points at the interface between the FIR and the NM Area of operations. Requests may come in case of capacity problems or any other disturbances to ATM.

The NMOC may also initiate ATFCM measures for flights departing from the Adjacent Area into the NM Area of responsibility.

The NMOC provides limited ATFCM services to some FMPs of Adjacent Areas. The service level provision to these FMPs is specified in their NM Agreement.

Flights originating from these FIRs and entering the NM Area of operations may be subject to ATFCM measures.

This is an exceptional measure that may help in resolving problems within the Network in the NM Area of responsibility (e.g. RR measures from Egypt to avoid Cyprus).

Even if for other reasons a detailed environment is available for such FIRs (e.g. sectors, routes), it is not the NM's responsibility to monitor / apply any measure on such entities.

Procedure

A request may be made by an Adjacent FMP or the NM tactical team may contact the FMP for the implementation of ATFCM measures. In such cases,

the **NM tactical team** shall:

- Refer to the NM Agreement in case of doubt regarding the service level that may be provided.
- Contact the FMP, in case the initiative comes from the NMOC (depending on the governing NM Agreement and type of measure this may be compulsory or not), or evaluate the request from the FMP.
- After both parties (adjacent FMP and the NMOC) agree on the measures, assess the impact of such measures on the Network.
- Coordinate action with any other affected FMPs should it become necessary (e.g. reroute scenario implementation).
- Either reject the proposed ATFCM measures or introduce them into the ETFMS, as agreed.
- Disseminate information to all parties concerned by appropriate means like AIM, NOP Portal, ANM and emails to AOs.
- Monitor the effect and impact on the Network of the ATFCM measures implemented in the Adjacent Area.

5.7 Managing a Flight in the ETFMS / PREDICT

5.7.1 Managing the Filed Tactical Flight Model (FTFM)

5.7.1.1 Manual Exemptions

The exemption status of a flight may, under some circumstances (e.g. wrong filing of the flight plan), be manually modified by the NM tactical team in the ETFMS (approval for ATFMX status). This can be done for both regulated and non-regulated flights.

It should be noted that exempted flights will be exempted from all regulations, while excluded flights will only be excluded from a specified regulation. Exempted flights are not subject to any ATFCM delay.

Procedure

Where a flight is not automatically exempted and it is identified as a candidate for ATFMX status,

the **FMP staff** shall**:**

- Contact the NM tactical team and request the manual exemption for a flight departing from their area of responsibility.
- Justify the reason of the request.

On receipt of a request for ATFMX status **from an FMP**,

the **NM tactical team** shall**:**

- Check the associated information in the flight plan.
- Exempt the flight manually.
- Provide feedback in DNP Editor.

On receipt of a request for ATFMX status **from an AO**,

the **NM tactical team** shall**:**

- Refer the caller to the local AIS at the aerodrome of departure from where the request for ATFMX status can be made.
- Whenever this cannot be achieved, then refer the caller to the relevant national AIP of the country in which the aerodrome of departure is located. The AIP shall contain the rules for acquiring permission to use STS / ATFMX in a flight plan message.

In exceptional cases, for a **hospital flight** (STS / HOSP) with delay that becomes critical with no exemption obtained and requesting ATFMX status,

the **NM tactical team** shall**:**

- Check the associated information in the flight plan and the traffic load.
- Coordinate with the relevant FMP(s) to seek their approval.

Based on these actions,

the **NM tactical team** shall:

- Decide whether or not to exempt the flight manually.
- Log the call sign and city pair of that flight in DNP Editor.

Note: A number of status indicators provide automatic exemption from ATFCM slot allocation. These indicators are:

- [STS / HEAD] flights carrying Head of State or equivalent status;
- [STS / SAR] flights conducting search and rescue operations;
- [STS / ATFMX] flights authorised by the relevant State to include in the flight plan;
- [STS / MEDEVAC] flights carrying a life-critical emergency evacuation;
- [STS / FFR] flights engaged in fire-fighting.

These 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. The relevant National AIP should indicate an appropriate office dedicated to issuing STS / ATFMX.

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.

5.7.1.2 Flight Deactivation

It is possible for a flight to be wrongly activated in the ETFMS. Such a situation may result from:

- ATC activated. This situation may result from an erroneous FSA or CPR generation.
- TACT activated:
  - This situation may result from a flight reaching its ETOT / CTOT with no other notification (FSA, CPR) necessary, or
  - An erroneous TTOT from an A-DPI.
- Terminated. This case may happen after the ATA of a flight that was wrongly ATC activated or TACT activated is reached, but the flight did not depart. Undo activation of a terminated flight may as well be necessary in order to enable processing of an ACH message in case of a diverted flight (CPRs continue to correlate to the initial FPL until ACH message is processed).

The IFPS is unable to process any messages (DLA, CHG and CNL) for any flight while it is **ATC activated, TACT activated (only due to A-DPI) or Terminated**. Where an AO has a necessary flight plan update for such a flight but it is not yet airborne, that flight must be deactivated in order to apply the update. FMP/TWR staff, AOs, or IFPS staff may identify and report such flights to the NM tactical team.

Procedure

Where a flight is departing from a non - CDM airport and is identified as wrongly ATC activated, TACT activated or Terminated, the **FMP/TWR/AO staff** shall:

- Contact the NM tactical team, preferably through E_Helpdesk, otherwise by phone and request flight deactivation.

Upon notification of a wrongly ATC activated, TACT activated or Terminated flight,

the **NM tactical team** shall:

- Verify the status of the flight(s), for example, if CPRs are being received for that location and / or contact the TWR at the aerodrome of departure.
- Deactivate (undo activation) the flight in the ETFMS.

Where a flight is departing from a CDM airport and is identified as wrongly TACT activated, the **TWR staff** shall:

- Submit a C-DPI with reason UNDOADPI, which will automatically deactivate the flight, or;
- Contact the NM tactical team and request flight deactivation, in case a C-DPI would severely disrupt operations at the airport, or cannot be send due to technical reason.

The **NM tactical team** shall:

- Verify the status of the flight(s)
- Deactivate (undo activation) the flight in the ETFMS.

Note: As a consequence of the C-DPI, the flight will get an FLS message with comment "Suspended by Departure Airport". Normal DLA/CHG will be accepted by ETFMS.

Note: Currently, if the EOBT (from the Undo Flight Activation window) is before the last TOBT + 15 minutes, the deactivation will update the FTFM but will not remove the CTFM. Therefore, FPL updates will remain impossible. Otherwise, the deactivation will be correctly applied and will remove the CTFM and FPL updates are possible.

Note: After deactivation, the TOBT/TSAT must be updated on the A-CDM platform. A new DPI will be generated.

5.7.1.3 Manual suspension of traffic based on airport slot on the request of designated authorities

NM have signed agreements and agreed procedures with various CAA's & ANSP's for the suspension of IFR flight plans without an airport slot or significantly off slot.

The legal basis for the handling of airport slots is regulation (EC) No 793/2004 amending Council Regulation (EEC) No 95/93 on common rules for the allocation of slots at Community airports published in April 2004 by the European Commission. Article 14 (1) of the above regulation says:

'An air carrier's flight plan may be rejected by the competent Air Traffic Management authorities if the air carrier intends to land or take off at a coordinated airport, during the periods for which it is coordinated, without having a slot allocated by the coordinator.'

The list of users who are authorised for requesting the manual suspension of flights as designated by the appropriate CAAs/ANSPs and other specific details, such as the required text for the FLS messages can be found on the latest version of the ON *"Manual suspension of traffic based on airport slot on the request of designated Authorities".*

Procedure

When the authorised users, as designated by the competent authority, have decided to suspend a flight, they shall:

- Contact the tactical operations position on telephone number (+32 2 745 1903) with a request for SUSPENSION
- Confirm the request by sending an E-mail to nm.airports@eurocontrol.int and nm.dom@eurocontrol.int

As soon as the request to suspend a specific flight is received,

the **NM Airport Function (or NM DOM/SNOC outside Airport Function working hours)** shall:

- Verify the telephone number to confirm that the request is indeed originating from the authorised user.
- Select the specified flight.
- Push the 'Action…' button, bottom-right of the Command Display.
- Select the Action Type: 'Manual Suspend'.
- Insert the text indicated for the originator user in the appropriate text box.
- Apply
- Log in the NMOC Internal Portal the suspended flights.

In case that suspended flights are accepted to operate at a later stage, on explicit request from the authorised user,

the **NM Airport Function (or NM DOM/SNOC outside Airport Function working hours)** shall:

- Select the specified flight from flight list of the traffic Demand
- Push the 'Action…' button, bottom-right of the flight list
- Select the Action Type: 'Remove Manual Suspend'
- Apply

In exceptional circumstances and for either operational or safety reasons,

the **NM Airport Function with the DOM approval (or NM DOM/SNOC outside Airport Function working hours)** shall:

- De-suspend flight plans on their own initiative.

Note:

The above procedure is NOT an ATFCM measure. NMOC tactical operations personnel are not required to perform any assessment before executing it. **The responsibility for identifying individual flights lies entirely with the CAA/ANSP or the authorised user.**

Note:

It is essential that coordination regarding the above procedure shall only take place between the NM Airport Function (or NM DOM/SNOC outside Airport Function working hours) and the authorised users. No other users besides the ones authorised by the competent authorities are empowered to suspend flights without airport slot or de-suspend when a slot has been allocated.

5.7.1.4 Cancel a Flight in the ETFMS

In certain circumstances flights which have been cancelled in the IFPS may be present in the ETFMS due to a discrepancy between the IFPS and the ETFMS.

A flight cancelled in the IFPS but wrongly ATC / TACT activated remains active in the ETFMS. This happens because the ETFMS rejects cancelling an ATC / TACT activated flight. In this case, the flight must be manually cancelled in the ETFMS.

Note that when a flight is cancelled in the ETFMS it is only cancelled in that system alone and not in the IFPS or for ATC.

This procedure is aimed to free capacity in such circumstances.

Procedure

Where a request to cancel a flight in the ETFMS is received from IFPS staff,

The **NM DOM** shall:

- Ensure that the flight is not airborne.
- In case the flight has been wrongly activated, deactivate the flight.
- Cancel the flight in the ETFMS.
- Log the event in DNP Editor.

5.7.1.5 Exclude / Include a Flight from / in a Regulation

The exclusion of a flight from one or more regulations will normally happen when a flight has been wrongly captured by the traffic volume or can be handled as an extra by the FMP. A flight may be manually excluded only after coordination with the relevant FMP(s). Requests for exclusion of a flight from a regulation may be made via the telephone or the e-Helpdesk (B2B or B2C).

It should be noted that flight exclusions may cause an inaccurate sector load count, so caution should be used with this procedure.

A flight may be excluded from one or more regulations **only in the Area of Responsibility of the requesting FMP**, while if it is exempted, the flight will be exempted from all regulations and all other ATFCM measures.

Excluded flights can be re-included if requested by the relevant FMP.

Procedure

Where a flight is identified to be excluded / included,

the **FMP staff** shall:

- Contact the NM tactical team to request exclusion / inclusion from / in a regulation and provide valid reasons.

  Note: A request for exclusion from multiple regulations simultaneously may be performed via the telephone or the e-Helpdesk .

the **NM DOM / NM SNOC / NM NOC** shall:

- Assess the impact of such an action on the Network.
- Exclude the flight from the regulation(s) where there is no impact on the Network.

- Refuse exclusion where there is a negative impact on the Network.
- Re-include a flight in a regulation on FMP request (only if it was previously excluded).
- Log the event in DNP Editor.

5.7.1.6 Last Minute Improvement

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 (compared to flying time).

The procedure applies to flights operating in the following conditions:

- Entirely within the airspace of one ACC or between two adjacent ACCs and
- Entering the concerned sector in the next 30 minutes.

Based on the operational conditions, the following scenarios may occur:

- Flight(s) will receive a slot cancellation message (SLC).
- Should the flight(s) be subject to other regulation that is not part of the procedure it (they) may keep the current CTOT.
- Should the flight(s) be subject to other regulation that is not part of the procedure it (they) will receive a slot revision message (SRM).

Excessive use of this procedure may indicate that the TFV description should be reviewed.

In order to maintain necessary records of such events, confirmation by fax / email may be required by the NM Tactical team.

Procedure

The **FMP staff** shall:

- Monitor the slot allocation list.
- Detect flights with disproportionate delay.
- Coordinate with the sector(s) and / or adjacent FMPs concerned.
- Request by phone the NM tactical team to apply the slot exclusion for a specific flight and if requested by the NM tactical team, confirm by fax / email in the following format: '..... FMP, request exclusion for flight ..... from regulation .....'

Having received a request from an FMP,

the **NM tactical team** shall:

- Verify that the flight meets the conditions listed above.
- Where it meets the conditions, exclude the flight, otherwise reject the request.
- Log the event in DNP Editor.

5.7.2 Managing the Regulated Tactical Flight Model (RTFM)

5.7.2.1 Manual Creation of a Slot

On occasions it may be possible to allocate an additional slot to the existing rate at a specific time period. This slot may be:

- allocated (to a coordinated flight) or
- released (for ETFMS use).

Such extra slots must be given by an FMP and manually created by the NM tactical team.

When the Network Impact Display (NID) is displayed there is a possibility to perform a what-if analysis for different slot times that permits:

- Move forward or backward the CTO(T) in 1 or 5 minute intervals.
- Move the CTO(T) forward or backward from/to the first encountered IFPS error(s) to any CTO(T) that presents error changes.

Note: The maximum evaluated referenced time interval that is 4 hours

Procedure

Having agreed an extra slot with an FMP,

the **NM tactical team** shall:

Create that new slot in the slot list.

Identify the status of the new slot (not blocked / blocked / booked).

Request the FMP to update the monitoring value, or update the monitoring value as agreed.

5.7.2.2 Manual Deletion of a Free Slot

The NM tactical team may identify unused slots in a time period where bunching has occurred and decide to delete these slots in order to protect from an over-delivery. They may inform the relevant FMP when they have deleted such slots.

Note: Free slots are not visible to FMPs.

Procedure

Where **NM tactical team** identify any unused slots in a time period where bunching has occurred, they shall:

- Delete the slot(s) in the slot list.
- Check the results and inform the FMP if relevant.

5.7.2.3 Manual Sending of a SIP and Assigning a Free Slot

When a regulation has available slots (e.g. after an improvement in the acceptance rate of the regulation) and the ETFMS is not reacting automatically to improve flights, a Slot Improvement Proposal (**SIP**) may be manually sent.

The reasons for doing so can be the result of requests from AOs and / or the responsible FMP or the NM tactical team after monitoring a slot list and identifying the need for a manual intervention.

Procedure

The **FMP staff** shall:

- Monitor the delayed flights flight list.
- Identify the flights with excessive delay or flights that can be improved (including those flights proposed by AOs).
- Identify any period in the regulation where additional traffic can be accepted.
- Contact the NM tactical team and propose improvements for the identified flights.

The **NM tactical team** shall:

- Monitor the delayed flights flight list / slot list.
- Identify the flights in slot issued status with excessive delay or flights that can be improved (including those flights proposed by AOs or FMP staff).
- Ensure that the improvement respects the taxi time (MINLINEUP if in REA status) of the departing aerodrome.
- For aircraft originating from A-CDM, ensure that the improvement is not before the last known TTOT.
- Check the slot list for available slots and where any are found:

Either:

If the flight is in SWM status, send a SIP to that flight for the available slot.

Or:

If the flight is in REA or RFI status, allocate the available slot to that flight.

5.7.2.4 CTOT Improvement Management

CTOT improvement is an action to improve a slot-issued flight in the ETFMS by proposing a new CTOT closer to its ETOT (or last received TTOT for A-CDM departures) without creating an overload. This action will result in the allocation of a new CTOT for that flight.

CTOTs may be manually modified in the ETFMS upon request from FMP / TWR staff or AOs.

This procedure does not apply to the slot swap procedure.

It is important that flights are not manually forced into low visibility arrival regulations unless they have a compliant RVR value.

Note: When a flight is manually forced and a profile update (due to a CHG or DLA) takes the flight outside of the regulation it was forced into, the flight will be unforced and re-calculated based on the new profile.

When the Network Impact Display (NID) is presented there is a possibility to perform a what-if analysis for different slot times that permits:

- Move forward or backward the CTO(T) in 1 or 5 minute intervals.
- Evaluate the impact on IFPS errors.
- Evaluate the impact on regulations and active traffic volumes.

Note: The maximum evaluated referenced time interval by the NID is 4 hours from the reference TOT.

Note: Requests for CTOT improvement may be made via the telephone or the e-Helpdesk (B2B or B2C).

Procedure

The **FMP staff** shall:

- Monitor the Regulation flight lists.
- Identify the flights with excessive delay that could be improved within Most Penalising regulations of their respective area of responsibility.
- Contact the NM tactical team and propose new CTO(T)s for the identified flights (such a flight must be in slot issued status and REA or RFI status).

Note: Request may be made via the telephone or the e-Helpdesk..

The **TWR staff** shall:

- Monitor the departure flight list.
- Identify the flights with excessive delay that could be negatively impacting TWR operations.
- Contact the NM tactical team and propose new CTO(T)s for the identified flights (such a flight must be in slot issued status and REA or RFI status).

The **NM tactical team** shall:

- Monitor the delayed flights flight list / slot list.
- Identify the flights with excessive delay that could be improved or flights proposed by AOs or FMP / TWR staff.
- Ensure that the flight is in slot-issued status and REA or RFI status.
- Ensure that the improvement respects the taxi time (MINLINEUP if in REA status) of the departing aerodrome.
- For aircraft originating from A-CDM, ensure that the improvement is not before the last known TTOT. Coordination between the NM tactical team and FMP / TWR (A-CDM) may be triggered to advance the TTOT (if the desired CTOT is before the last TTOT).
- Identify any available capacity in the counts and select the most appropriate period to force the flight.
- Assess the Network impact before confirming the 'force CTO(T)' action by checking the Network Impact Display (**NID**).
- In case of a negative impact on the Network, contact the relevant FMP(s) about the possibility of improvement for such a flight.
- Force the flight if there is no significant impact on the Network or if the FMP(s) accepts the new CTO(T).
- Release the forced flight for further processing in the ETFMS.
- If no improvement is possible for a flight, check the rerouteing / level capping possibilities and ensure that any possible proposal found is sent to the AO.

5.7.2.5 CTOT Extension Management

CTOT extension requests are managed differently depending on whether the flight is departing from an A-CDM (CDM or Advanced ATC Tower) or a non-CDM (Standard) airport.

Note: Requests for CTOT extension may be made via the telephone or the e-Helpdesk. The request can be sent via A-DPI TWR Update, for those TWRs using this functionality. In that case the request is assessed automatically by ETFMS.

Departures from non-CDM (Standard) airports

Where an aircraft is departing from a non-CDM airport and cannot be released in time to respect its slot tolerance window (default is -5, +10min), the AO or the FMP / TWR may request a slot extension for that flight. Provided the flight qualifies for an extension, it should be given. Otherwise, the AO shall send a DLA message. These slot extensions are limited to a maximum of 10 minutes.

A request for a CTOT extension for traffic departing from non-CDM airports qualifies when these conditions are met:

- The request comes within 20 minutes of the COBT required to achieve the slot (CTOT - taxi time - less than 20 minutes) and no later than the COBT (such a request may originate from the AO, FMP or TWR).
- The request comes when the current clock time has reached COBT (such a request may only originate from the FMP / TWR).
- No prior slot extension has been given.

The delay due to CTOT extension requests will not be attributed to the FMP that requested the regulation.

Procedure

For traffic departing from non-CDM airports, having received a CTOT extension request from an AO or having decided to request it,

the **FMP/TWR staff** shall:

- Check if the flight meets the conditions above and check with the AO if the request has not already been done by the AO itself and if not,
- Pass the request to the **NM tactical team**.

Note: Request may be made via the telephone or the e-Helpdesk.

For traffic departing from non-CDM airports, having received a CTOT extension request from an AO or FMP / TWR,

the **NM tactical team** shall:

- Check if the flight meets the conditions above.
- Assess the Network impact.
  - Check the extension does not generate IFPS errors.
  - Check the extension does not generate an overload. The capacity should be respected in all regulations, not just the most penalising one.
- If time allows, examine whether the flight can be swapped with a flight which is ready to depart.

And then **either**:

- Give the slot extension if the conditions are met and there is no significant impact on the Network and select the slot extension checkbox.
- Exclude the flight from the regulation if there is no significant impact on the Network in case the flight is at the end of the regulation and the extension would place the flight outside the regulation period.

Or:

- Refuse the extension if the conditions are not met and / or there is a negative impact on the Network:

- The **FMP/TWR** shall:
  - Contact the **NM tactical team** to coordinate to send the next available CTOT, or
  - Request the AO to send a DLA message.

Departures from Advanced ATC Tower airports

Flights departing from Advanced ATC Tower airports are also limited to a maximum of 10 minutes slot extension. The AO or the FMP / TWR may request a slot extension for the flight.

A request for a CTOT extension for traffic departing from Advanced ATC Tower airports qualifies when these conditions are met:

- The request comes within 20 minutes of the COBT required to achieve the slot (CTOT - taxi time - less than 20 minutes) and the AOBT or COBT (whichever is earlier). Such a request may originate from the AO, FMP or TWR.
- The request comes when the current clock time has reached the AOBT or COBT (whichever is earlier).Such a request may only originate from the FMP / TWR.
- No prior slot extension has been given.

The delay due to CTOT extension requests will not be attributed to the FMP that requested the regulation.

Procedure

For traffic departing from Advanced ATC Tower airports, having received a CTOT extension request from an AO or having decided to request it,

the **FMP/TWR staff** shall:

- Check if the flight meets the conditions above and check with the AO if the request has not already been done by the AO itself and if not,
- Pass the request to the **NM tactical team**.

Note: Request may be made via the telephone or the e-Helpdesk.

For traffic departing from Advanced ATC Tower airports, having received a CTOT extension request from an AO or FMP / TWR,

the **NM tactical team** shall:

- Check if the flight meets the conditions above.
- Assess the Network impact.
  - Check the extension does not generate IFPS errors.
  - Check the extension does not generate an overload. The capacity should be respected in all regulations, not just the most penalising one.
- If time allows, examine whether the flight can be swapped with a flight which is ready to depart.

And then **either**:

- Give the slot extension if the conditions are met and there is no significant impact on the Network and select the slot extension checkbox.

- Exclude the flight from the regulation if there is no significant impact on the Network in case the flight is at the end of the regulation and the extension would place the flight outside the regulation period.

  Or:

- Refuse the extension if the conditions are not met and / or there is a negative impact on the Network:
  - If the flight is not yet taxiing, **NM tactical team** shall:
    - Request the AO to send a DLA/CHG message.
  - If the flight is already taxiing, the **FMP/TWR** shall:
    - Contact the **NM tactical team** to coordinate to send the next available CTOT, or
    - Apply the return to the stand procedure.
      Note: If the return to the stand procedure is applied, the AO shall send a DLA/CHG message.

Departures from CDM airports

Flights departing from CDM airports are also limited to a maximum of 10 minutes slot extension. Only the FMP / TWR may request a slot extension for the flight.

A request for a CTOT extension for traffic departing from CDM airports qualifies when these conditions are met:

- The request comes after the ASAT (A-DPI sent) (such a request may originate from the FMP or TWR).
- No prior slot extension has been given.

The delay due to CTOT extension requests will not be attributed to the FMP that requested the regulation.

Procedure

For traffic departing from CDM airports, having received a CTOT extension request from an AO,

the **NM tactical team** shall:

- Not give a slot extension.
- If received via telephone or at the e-Helpdesk, give (or send) the following answer: 'Your flight is departing from a CDM airport. If your flight has received start-up approval only the pilot can call the TWR (over the frequency) for a slot extension. If your flight has not received start-up approval an update of the TOBT is required'.

For traffic departing from CDM airports, if there is an operational need for a CTOT extension request,

the **FMP/TWR** staff shall:

- Check if the flight meets the conditions above,
- Pass the request to the **NM tactical team**.

Note: Request may be made via the telephone or the e-Helpdesk.

The **NM tactical team** shall:

- Check if the flight meets the conditions above.
- Check the extension does not generate IFPS errors.
- Check the extension does not generate an overload. The capacity should be respected in all regulations, not just the most penalising one.
- Assess the Network impact.

And then **either**:

- Give the slot extension if the conditions are met and there is no significant impact on the Network and select the slot extension checkbox.
- Exclude the flight from the regulation if there is no significant impact on the Network, in case the flight is at the end of the regulation and the extension would place the flight outside the regulation period.

Or:

- Refuse the extension if the conditions are not met and / or there is a negative impact on the Network:
  - If the flight is not yet taxiing, **NM tactical team** shall:
    - Request the update of the TOBT.
  - If the flight is already taxiing, the **FMP/TWR** shall:
    - Contact the **NM tactical team** to coordinate to send the next available CTOT or,
    - Apply the return to the stand procedure.
      Note: If the return to the stand procedure is applied, the AO shall send a DLA/CHG message and update the TOBT.

5.7.2.6 Slot Swapping

The ETFMS slot swapping functionality is used to swap flights requested by AOs or FMPs/TWRs. Additionally, it may be used to improve another flight if an aircraft operator requests a slot extension (i.e. instead of forcing the flight).

AOs shall only request swaps concerning flights for which they are the responsible operator (OPR in Item 18 of the FPL) or where there is a formal agreement between both AOs to swap flights.

The NM tactical team will neither check that these flights are from the same operators nor that a formal agreement exists.

FMPs may request swaps for two flights of the same AO or, during critical events at airports, also between any different AOs.

Conditions:

- A request for a swap from an AO, TWR or FMP is received.

- The two concerned flights must be in slot-issued status.
- The two flights must be subject to the same most penalising regulation.
- Up to three swaps per flight shall be accepted, except critical events upon FMP request and NM OM approval.

Procedure

The concerned **FMP / TWR** (according to the most penalising regulation) may:

- Request the NM tactical team to swap two specific flights.

Having received a request for a swap from an AO or FMP / TWR,

the **NM tactical team** shall:

- Identify the flights.
- For aircraft originating from A-CDM, ensure that the improvement is not before the last known TTOT.
- Check the Network Impact Display (NID).
- In case of a negative impact on the Network, refuse the action unless all impacted FMPs agree.
- Swap the two flights if the conditions are met and there is no significant impact on the Network.
- Where the swap may be performed, leave forced the improved flight and unforced the deteriorated flight.

5.7.2.7 Managing the REA Status of a Flight

The REA message is designed to enable local ATC / ARO units to inform the ETFMS that a regulated flight is fully ready to depart before its EOBT / CTOT. Depending on the time of reception of the message in the ETFMS, the flight may receive a CTOT of up to 15 minutes earlier than the original EOBT according to the FPL. The flight set to REA status allows the shortest available parameters for improving the new CTOT (the ETFMS will prioritise a flight in REA status over a flight in RFI status under the same conditions).

Note: A flight in REA status will only receive a new improved CTOT if there is available capacity, otherwise the CTOT will not change.

The message may modify the relevant taxi time by specifying a minimum line-up time (MINLINEUP). If no time is specified in the message, the system will use the default taxi time of the relevant aerodrome. The time at which the ETFMS receives a REA will be used as the NEWEOBT.

On reception of the message for a regulated flight, the ETFMS will look for a CTOT no earlier than the clock time of the reception plus the taxi time / MINLINEUP (NEWCTOT = NEWEOBT + taxi time / MINLINEUP + delay). If an improvement is possible, the AO and ATC will receive an SRM.

The conditions that apply are:

- The concerned flight is regulated.
- The message is sent up to 15 minutes prior to the EOBT of the flight.
- The message is not sent later than the CTOT - taxi time / MINLINEUP - SRM minimum improvement time (5 minutes). The True Revision Process will also try to improve the flight until then.
- Only ATC / ATFCM units can send a REA message. The REA message is sent via SITA / AFTN or via digital means. AOs shall contact and coordinate with these units in case they want to benefit from this functionality.

Traffic departing from A-CDM airports will automatically be given REA status when clock reaches TOBT – 5 and a T-DPI-s has been received for the flight. Note that when a T-DPI-s is received and the TTOT is inside the STW, ETFMS will no longer search for an improved CTOT.

In addition, traffic departing from A-CDM may send a REA message by following the same process as for non-CDM airports. This may result in recalculating the CTOT and deleting relevant information received in previous DPI messages.

Note that the ATFM delay calculation is expressed as:

- For REA messages: ATFM delay = CTOT – (last EOBT received in IFPS + taxi time);
- For T-DPI-s messages: ATFM delay = CTOT – TTOT (the TTOT in the last E-DPI / T-DPI-t received).

Procedure

After being informed by an AO ready to depart before its EOBT / CTOT (e.g. doors are closed and flight ready to depart),

the **FMP / TWR staff** shall:

- Decide if ground situation permits an earlier departure taking into account the conditions set in the aforementioned list.
- In case an earlier departure is possible, specify the minimum line-up time needed to let the aircraft go from the current position to the RWY and, if the time needed is less or more than the current taxi time, add it in the REA message (MINLINEUP).
- Send the REA message to the ETFMS.

5.7.2.8 CASA Does Not Push Flights Into Closed Airspace

When a flight is regulated, the CTOT may delay the flight into one or more IFPS time dependent constraints (e.g. RAD restrictions, CDR1 closed), hence violations appear in en-route and / or airspace restrictions.

The ETFMS tries to take the **IFPS validity period** of each flight into account to prevent flights from being pushed into a closed airspace by an ATFM delay. This validity period will act as a 'Slot not after…'. This behaviour solves most of the IFPS violations. However, there are two marginal situations that can trigger coordination between the different actors:

a) Some flights limited by the same IFPS restriction (Case of **'V' flights**). In this case, CASA might allocate slots so that these flights will arrive exactly at the beginning of the IFPS validity period, creating a bunching at the beginning of the IFPS closure and, possibly, inside the regulation. These flights for which the delay has been limited to meet the IFPS constraint will be marked in the slot list and the flight list with a **'V'** in the CTOT column.

b) In some rare cases it is impossible for the CASA algorithm to meet both the ATFCM constraint(s) and the IFPS validity period constraint(s) (Case of **'X' flights**). For example, a zero rate regulation or RVR sub-period that would bring

the flight into an IFPS invalid period. In such a situation where the constraints cannot be reconciled, **the priority has been given to the ATFM constraint**. Therefore, the flight that presents IFPS violation(s) will be marked in the slot list and the flight list with an **'X'** in the CTOT column.

c) Flights may also appear as 'v' (small 'v') in the flight lists and the slot lists. This indicates a fomer 'V' flight (capital V) whose CTOT has been modified manually.

Note: The ETFMS, CHMI and the NOP Portal displays indicate that a **CTOT Limit (CL)** given by CASA and the CTOT characteristic type.

The following displays will indicate that a CTOT Limit (CL) has been put in place:

- ETFMS / NOP Portal / CHMI flight list
- ETFMS Slot List
- NOP portal / CHMI ARCID list
- NOP Portal Measure Editor flight list
- NOP Portal / CHMI Flight Details

Procedure for 'V' flights during pre-tactical operations

The **NM pre-tactical team** shall:

- Monitor in pre-tactical operations the possible bunches produced by 'V' flights that need to be fixed (especially during high delays situations).
- Note the characteristics of the 'V' flights for possible actions (e.g. to be communicated to the NM tactical team via the Network Brief).
- If the bunching is considered excessive, coordinate with the FMP an alternative solution (e.g. disabling temporarily the environment restriction). The communication should be: 'Do you accept the following flights … via the restricted area / route / point... for the next … hours?').
- If there is a need to coordinate with adjacent FMPs, take the appropriate actions.

Procedure for 'V' flights during tactical operations

In case of a bunching of **'V' flights** that needs to be fixed,

the **FMP staff** shall:

- Contact the NM tactical team and communicate the bunching to be solved.

The staff in **NM SNOC** position (**SNOC** during the day / **DOM** during the night) shall:

- Monitor in tactical operation the possible bunches produced by 'V' flights that may need to be fixed (especially during high delays situations) or reported by the FMP.
- If the bunching is considered excessive, further advance some flights to reduce the bunching.
- If the bunching is such that the 'V' flights, after advancing, would occupy a significant number of consecutive slots in the regulation (in case of high delay and low rate) the following action will mitigate the problem:
  - Select the 'V' flights, force them to CTOTs with a new delay equal to half of the initial delay. For example: Initial CTOT 1200, delay 60m, force it to

a new CTOT=1130, that means 1200-30min. This technique will keep the initial 'natural' spreading of the demand.

- If the previous solution is not possible then coordinate with the FMP an alternative solution (e.g. temporarily disabling the environment restriction). The communication should be: 'Do you accept the following flights … via the restricted area / route / point... for the next … hours?').
  - If the disabled action of the restriction is accepted, coordinate with the NM AD supervisor to disable the restriction.
  - Coordinate with adjacent FMPs, if deemed necessary.
  - Re-compute the FTFM Validity of the 'V' flights producing the bunching.
  - Deep rectify the regulation.
  - Check that the 'V' flights concerned have received a SRM and have been pushed forward in the slot list.
- If the previous solution is not possible, then coordinate an alternative solution as follows:

A. If time permits (OBT of 'V' flights more than 1 hour in the future),

the staff in **NM SNOC** position (**SNOC** during the day / **DOM** during the night) shall:

- Create the list of flights to be re-routed and communicate it (via email) to the NM AOLO and the NM IFPS supervisor (note that disabling of restrictions may be necessary).

The **NM AOLO** shall:

- In coordination with the NM IFPS operator, analyse the IFPS error(s) and produce, using the 'What if' tool or Group Rerouting Tool (GRRT), a Rerouting Proposal (RRP) for each flight.
- Check Off-Block Time (OBT) validity period of the RRP in order to make sure that the possible new delay is not limited by IFPS restriction (no new 'V' flights are produced as a result of the RRP).
- Send RRPs inserting warning information by using the ETFMS email function.
- Inform the NM IFPS Supervisor and the NM SNOC of the RRPs sent.
- Contact by phone the AO to explain the situation.

The staff in **NM SNOC** position (**SNOC** during the day / **DOM** during the night) shall:

- Suspend the corresponding 'V' flight by using the 'Suspend V Flights' feature.
- The system will process FPL messages modifying the flight trajectory of manually suspended 'V' flights and automatically de-suspend the flights if the V condition is removed as a result of the FPL message processing.

In case a flight remains manually suspended, the NM IFPS supervisor will check incoming messages related to the 'V' flight concerned and:

- Verify that the CHG or CNL followed by FPL is consistent with the RRP.
- Inform the SNOC, if the revised or new FPL is consistent with the RRP, who will manually de-suspend the flight.
- If the revised or new FPL is not consistent with the RRP, manually modify the FPL (MAN), inform the SNOC after the ACK, who will manually de-suspend the flight.

B. If time is critical (OBT of 'V' flights less than 1 hour in the future),

the staff in **NM SNOC** position (**SNOC** during the day / **DOM** during the night) shall:

- Create an MCP regulation using the same TF as the regulation where the bunching needs action. This will be used to remove the bunching by further delaying the flights and give additional time to execute the RRP process described above.
  - Reg id: XVF + date
  - Start time: 5 min before first flight in the bunching.
  - End time: start time + 3 hours
  - Traffic Volume Set : NETWORK
  - Reason: Other
  - ANM remark: NETWORK CHERRY PICK DUE TO ATFM DELAY INDUCING IFPS VIOLATION
- Inform the FMP owner of the overloaded regulation about the MCP creation.
- Manually force the flights to the end of MCP regulation period minus 15 min.
- Start the re-routing steps as described in case **A above.**

Procedure for 'X' flights during tactical operations

In case of **'X' flights**,

the **NM tactical team** shall immediately contact the originator of the restriction and advise to manage the incoming traffic.

5.7.3 Flight Activation Monitoring (FAM)

In the areas in which Correlated Position Reports (CPRs) are received and flight activation monitoring (FAM) is enabled, those 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.

In normal circumstances such a flight shall not receive a departure clearance (for more details on FAM refer annex A, **Flight data**).

An FMP may request the NM to disable FAM only for technical reasons, in such cases the NM Customer technical Service desk and Operations (**CSO**) shall be informed.

5.7.3.1 Undo FAM

The undo Flight Activation Monitoring (**FAM**) functionality has been designed to avoid shifting and suspending flights when no CPRs are received.

Due to intermittent radar coverage, it is possible that an Entry Node (**EN**) sends plots for a part of the covered airspace but not at all for another part of the airspace. This could happen in case of radar malfunction. In this case, the FAM will assume that the entry node is still working properly because plots are received from this EN. The FAM will then unduly shift and suspend flights.

If a flight is wrongly shifted by the FAM, after undoing FAM the flight will be un-shifted back to its FTFM (and ETOT) if it is not regulated. If the flight is

regulated, the ETFMS will recalculate its slot and the flight will be shifted to its new CTOT with a new RTFM.

If a flight is wrongly suspended by the FAM, after undoing FAM the flight will be de-suspended. If the flight is not regulated, the current tactical flight model (CTFM) will be set to the ETOT of the FTFM before suspension. If the flight is regulated, the ETFMS will recalculate its slot and the flight will be shifted to its new CTOT with a new RTFM.

As a result, undo FAM can only be performed after ETOT / CTOT or ETO / CTO.

Procedure

After establishing that FAM is not working correctly,

the **FMP staff** shall:

- Identify and select the flight(s) which are wrongly shifted / suspended by FAM.
- Report the affected flight(s) to the NM tactical team.

Having been informed by an FMP that flights are not shifted or suspended as appropriate,

the **NM tactical team** shall:

- Undo FAM for the selected flight(s).

After establishing that FAM is not working correctly,

the **NM tactical team** shall:

- Identify and select the flight(s) which are wrongly shifted / suspended by FAM.
- Coordinate with the appropriate FMP any further action.
- Inform the NM DOM.
- Undo FAM for the selected flight(s).

5.7.4 FLS Triggered by DPI-Transmitting Aerodromes

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

At reception of a new E-DPI, T-DPI-t or T-DPI-s message triggered by e.g. a TOBT update or a DLA/CHG updating the EOBT, the flight will receive a new SAM, DES or FLS sent by the ETFMS.

The AO is expected to communicate the updated TOBT (via his Handling Agent) to the A-CDM platform, which will transmit a new TTOT to the ETFMS by DPI messaging. An A-DPI message is rejected for suspended flights. However, an A-DPI TWRUPDATE message will be accepted from Advanced ATC Tower airports and from A-CDM airports using this feature. The flight will receive a new SAM, DES or FLS sent by the ETFMS.

If the flight has already departed, the first received ATC message (DEP / FSA) or the first received CPR will automatically de-suspend the flight in ETFMS (no SAM or DES is sent).

Procedure

In case the flight is suspended by the airport via a C-DPI,

the **NM tactical team** shall:

- Request the FMP / TWR or AO staff to:
  - Request the handling agent to provide a new TOBT or
  - Take manual action to put the flight back into the pre-departure sequence or to trigger an A-DPI TWRUPDATE (from Advanced ATC Tower airports).
  - Request the AO to send a DLA or CHG message to align EOBT with TOBT. Although the DLA or CHG will trigger a de-suspension message, the TOBT update is required.

5.7.5 Monitoring of Tactical Delay Savings

Delay savings achieved via individual flight improvements may be monitored via the ETFMS flight list display. With this enhancement, it is possible to see the list of all flights that were manually treated.

Actions that deliver direct delay impact are: Force CTO/T, Force SLOT, Flight ‘x’ on Slot ‘y’ (Override Slot) and exclusions.

Procedure

To better monitor the tactical delay savings,

the **NM DOM** shall:

- Monitor throughout the day of operations a flight list filtered with Force CTO/T, Force SLOT, Flight ‘x’ on Slot ‘y’ (Override Slot) and Exclusion actions.
- Where the Network situation allows, support the annual en-route delay reduction objective by keeping the ‘delay delta’ for al ATFM delays above a certain percentage (10-15%).

5.7.6 Flights Pushed Outside Regulations

Flights shifted outside a regulation (e.g. by FAM) will be highlighted in red in the regulation list, in order to trigger action from the NM tactical team and to inform the AO about the status of their flight.

Procedure

When a flight is shifted outside a regulation, and a call is received by a TWR for the exclusion of this flight,

The **NM tactical team** shall:

- Exclude the flight from the regulation to send a SLC message to the AO;

When a flight is shifted outside a regulation, and a call is received by an AO about this flight,

The **NM tactical team** shall:

- Confirm that the flight is no longer subject to a regulation, and
- Ask the AO to send a DLA message.

Note: The AO may receive a SLC message with comment: "REASON OUTREG" if the flight is not subject to other regulations.

5.8 Flow Management (FM) Helpdesk

The FM Helpdesk is provided to assist and encourage Flow Management Positions, Towers, Aircraft Operators and Flight Handling Agents to follow the correct procedure for their situation, and to help them solve their problem whenever it cannot be solved by use of ATFM message exchange.

The FM Helpdesk service is available via telephone and via the e-Helpdesk (B2B or B2C).

For FMPs and TWRs, the e-Helpdesk allows requests for slot improvement and slot extensions. FMPs are also allowed to request the exclusion from one or more of their regulations.

5.8.1 Answering Helpdesk Queries

The Helpdesk attempts to answer queries as follows:

- Assistance to follow the correct procedure for particular problems;
- When possible, assistance to reduce delays;
- Providing information concerning ATFCM measures.

The e-Helpdesk will be treated with priority over FM Helpdesk phone calls. The telephone service is reserved for business aviation and those who do not have internet access.

Note: Flights that are in "Ready" status will be marked in the queue in the details area of the e-Helpdesk request (only HMI impact, these requests will be processed as any other).

Procedure

The **NM tactical team** assigned to Helpdesk tasks shall:

- Advise the NM DOM when the number of waiting calls increases.
- Respond to Helpdesk queries regardless of the way the request arrives, but prioritising the queries received through the e-Helpdesk and those phone calls with the label 'BIZJET'.
- Use the drop down menu items when responding if possible. In case a suitable menu item does not exist or further explanation is required, use the free text box and explain the reason in plain English (avoid copying directly from the ETFMS).
- Notify e-helpdesk@eurocontrol.int of possible missing response types.
- Use the flag for general interest in cases where there are, or are expected to be, multiple queries for the same reason.

- Report to the NM DOM if the caller becomes abusive, while not responding to that abuse. A claim shall be submitted through the NM DOM if deemed appropriate.
- In the event of internet connection problems, notify CSO immediately.

The **NM DOM** shall:

- Reinforce the Helpdesk accordingly in case the workload increases.
- Set a rule on the e-Helpdesk in case of major problems on a specific area, in order to send automated answers and decrease the response time to other queries.

5.8.2 e-Helpdesk automatic processing of requests

The automatic processing of e-Helpdesk requests, from TWRs, FMPs and AOs, is possible through the setting of:

1. Permanent rules
   - Duplicate requests;
   - Requests for slot extension, slot improvement and slot swap before SIT1;
   - Slot extension non-CDM;
   - Slot extension A-CDM;
   - Not suitable for manual improvement from A-CDM;
   - Most penalising regulation changed;
   - Not regulated.
2. Regulation based rules
   - Delay improvement requests, based on:
     - Regulation Slot Improvement rejection rule based on:
       - Fixed delay value;
       - Local average delay percentage factor.
3. General auto response rules – user defined response rule (possible default selection)

The automatic processing of requests enables the **NM tactical** team to focus on other tasks with a high added value for the Network.

Procedure

- **Management of automatic processing rules**

The **NM DOM** (or NM SNOC if NM DOM is unavailable) shall:

- Monitor the Network situation and the saturation of the e-Helpdesk with requests and as necessary manage (enable/disable/set parameters) the e-Helpdesk automatic processing rules described in the following sections.
- Manage the automatic processing via the Scenario Display.

The Scenario Display manages all types of e-Helpdesk rules. An e-Helpdesk rule may be applied on multiple Regulations.

- **Permanent rules**

1. **Duplicate Request Rejection rule**

In the Scenario Display shown as: *"Duplicate_Request_Rejection"*

Function:

The same requests for slot extension, slot improvement or exclusion from a Regulation within a defined time parameter are either automatically rejected or supersede the same existing request in the e-Helpdesk queue based on the criteria of:

- Request originator priority (TWR, FMP or AO)
- Processing status of the preceding request (Proposed or Coordinated)

Default setting:

- Elapsed Time between requests = 15 min.

Rule management

The **NM DOM** shall:

- Monitor the Network situation and saturation of e-Helpdesk with requests;
- If necessary, set the elapsed time between requests

2. **Slot extension for non-CDM and A-CDM rejection rules**

In the Scenario Display shown as: *"Slot_Extension"* (non-CDM) and *"Slot_Extension_CDM"* (CDM)

Function:

The e-Helpdesk distinguishes two separate Slot extension rejection rules. The following applies:

- Non-CDM or Advanced ATC TWR departures: Slot extension requests outside the 20 min window before COBT or when clock time reached COBT are automatically rejected ("*Slot extension*" rejection rule). Requests from the originator type TWR or FMP after COBT will not be rejected.
- CDM departures: Slot extension requests from originator type AO are automatically rejected ("*Slot extension A-CDM*" rejection rule). Requests from the originator type FMP and TWR will not be rejected.

3. **Not suitable for manual improvement from A-CDM**

In the Scenario Display shown as: *"Not_Suitable_For_Manual_Improvement"*

Function:

A-CDM departures: Requests for improvements are rejected where the flight's TTOT (from T-DPI-s)=minCTOT falls within the Slot Tolerance Window. Such request is not rejected when it is submitted by the originator type TWR.

4. **Most penalising regulation changed**

In the Scenario Display shown as: *"Most_Penalising_Regulation_Changed"*

Function:

When something changes regulation-wise for a flight in the queue it will auto-reject the request.

5. **Not regulated**

In the Scenario Display shown as: *"Not_Regulated"*

Function:

This rule is only valid for request for improvement and extension, but the flight already has a provisional take off time (PTOT) assigned it will auto-reject the request.

6. **Requests for slot improvement before EOBT-60 minutes**

Function:

Requests for slot improvement before EOBT-60 are automatically rejected.

The parameter for the automatic rejection of the requests before EOBT - <SLOT_IMPROVEMENT_TIME_BEFORE_EOBT> cannot be modified tactically and requires publication via an OI for a permanent change or via AIM with approval of the OM for a temporary change.

- **Regulation based rules**

1. **Regulation Slot Improvement Minimum Delay rejection rule**

After a right click, selecting New/e-Helpdesk Rule in the Scenario Display shown as: *"Regulation Slot Improvement Minimum Delay"*

Function:

Regulation Slot Improvement Minimum Delay rejection rules in the Slot Improvement tab:

a. Regulation Delay

b. Average Regulation Delay %

1) If only one of the 2 possible rules (Regulation Delay (fixed) and Average Regulation Delay (MLAD) are enabled for the selected specific regulation(s), all delay improvement requests for flights regulated by the specific regulation(s) will be automatically compared with the Regulation Delay parameter set as a fixed value or a selected percentage factor of the Local Average Regulation Delay (MLAD).

Delay improvement requests with a delay lower than the Regulation Delay or MLAD parameter are automatically rejected.

Delay improvement requests with a delay higher than or equal to the Regulation Delay parameter or MLAD are submitted for manual processing by the **NM tactical team**.

2) Both Regulation Delay (fixed) - and Average Regulation Delay (MLAD) rejection rules are enabled for the same regulation

All delay improvement requests for flights regulated by the specific regulation(s) will be automatically compared with the fixed parameter and also with the MLAD parameter.

Delay improvement requests with a delay lower than the parameters are automatically rejected.

Delay improvement requests with a delay higher than or equal to parameters are submitted for manual processing by the **NM tactical** team.

Note: The automatic rejection based on Regulation Slot Improvement Minimum Delay rejection rule does not apply on flights in READY status.

Note: All e-helpdesk requests for Slot Improvement, including the subtypes “Airport Closure” and “Livestock,” with a delay lower than the parameters are automatically rejected.

Note: When coordination has taken place, but FMPs are unable to accommodate critical flights, the Regulation Slot Improvement Minimum Delay rejection rule will be enforced in critical flights.

Note: For new regulations it should be checked if it is included as part of the Regulation Slot Improvement Minimum Delay rejection rule.

Default setting:

- Rule = Disabled;
- Exclude Critical Flights = Enabled;
- Regulation slot improvement delay parameter in the Slot Improvement tab
    - Fixed value selected according to delay generated by the Regulation(s) and the Network situation (default 10’), or
    - LAD Factor (%) = selected percentage of the Local Average Delay (possible values are between 50 and 150 %, default 120%).
- Application period = according to Network situation;
- Regulation Id = specific selected Regulation(s) in the Regulations tab;
- Application Period =
    - Select Activity period determined by regulations (default), or
    - Manually (deselect “Activity period determined by regulations” checkmark);
- Slot improvement rejection rule based on EOBT

  The EHMI will display system rule (number 14) for rejecting slot improvement requests at a time (in minutes) before EOBT (default 60).

Rule management:

The **NM DOM shall:**

- Monitor the Network situation and saturation of e-Helpdesk with requests;
- If necessary, enable the rule, request the approval of the OM on duty (in case the OM is not available, a mail should be sent to the OM Group with the Head of NOS or the manager on call in copy.)
- If necessary and coordinated with FMP, include critical flights:
  - Create a separate rule for the coordinated regulations with FMP
  - include critical flights (set "Exclude Critical Flights" as 'Disabled')
  - When no longer needed, terminate the rule or exclude critical flights for the regulated Traffic Volume coordinated with the FMP
- If approval is given, enable the rule and set the:
  - Application period end time and;
  - Regulation delay and/or Average Regulation Delay parameter.

  The rule becomes disabled when reaching the end time.
- If necessary, disable the rule, or to advance the expiration of the rule, the end time can be modified.

Note: When Activity period determined by regulations checkmark is deselected and the Regulation period is modified (reduced/extended in the Regulation Editor), modify the end time of the rule;

Note: It is possible to set one rule for multiple regulations by selecting more regulations in the Regulations tab (type the first character of the regulation id to invoke a drop down regulation selector).

- **General Auto Response rule**

In the e-Helpdesk application shown as: "General Auto Response"

Function:

By setting the General Auto Response rule it is possible to set predefined responses to selected request types.

This rule can be activated for multiple regulations by selecting the regulations in the Regulations tab.

Default setting:

- Rule = Disabled;
- Exclude Critical Flights = Enabled;
- Regulation Id = specific selected Regulation(s);
- Application Period =
  - Activity period determined by regulations (default) or,

- Manually (deselect “Activity period determined by regulations” checkmark);
- Request Types in the Auto Response tab
- Select manually
- Select using the “Default” button preset where automatically:
- 8 predefined responses are included;
- Select manually:
- The predefined response type “Sorry, no improvement possible. Regards.” in the Settings tab is selected;
- General Interest checkmark in the Auto Response tab.

Rule management:

The **NM DOM** shall**:**

- Monitor the Network situation and saturation of e-Helpdesk with requests;
- If necessary, enable the rule and set the:
  a. Rule application end time or enable the “Activity period determined by regulations ” checkmark
  b. Regulation Id(s);
  c. Request types;
  d. Response
- If necessary and coordinated with FMP, include critical flights:
  a. Create a separate for the coordinated regulations with FMP
  b. include critical flights
  c. When no longer needed, terminate the rule or exclude critical flights for the regulated Traffic Volume coordinated with the FMP

The rule becomes disabled at expiration of the rule application end time.

- When Activity period determined by regulations checkmark is deselected and the Regulation period is modified (reduced/extended in the Regulation Editor), modify the end time of the rule;
- if necessary, disable the rule. To advance the expiration of the rule, the rule application end time can be modified.

Note: It is possible to set one rule for multiple regulations by selecting more regulations in the Regulations tab (type the first character of the regulation id to invoke a drop down regulation selector).

Note: Where coordination has taken place, but FMPs are unable to accommodate critical flights, the General Auto Response rule will be enforced in critical flights.

Note: For new regulations it should be checked if it is included as part of the General Auto Response rejection rule.

- **Queue management**

The MCDM Orig. column specifies the delegator (TWR type and TWR identification) with a 'd' on whose behalf the request was made.

Requests are sorted automatically based on the following order:

1) Request originator: A-CDM > Adv.TWR > other airports > FMP > AO
2) Within each originator by request types (Extension > Improvement > Exclusion > other requests)
3) Within Extension requests: sorted by time closest to CTOT
4) Within Exclusion from regulation requests: sort by difference between highest flight delay and the LAD
5) Within Improvement requests: sorted by difference between highest flight delay and the LAD
6) Within all other requests - sorted by submission time

Therefore the request on top of the queue should be treated first.

The **NM NOO, NM AOLO** shall only process requests of originator type AO, unless instructed otherwise by the **NM OM / NM DOM**.

The **NM SNOC, NM NOC** shall process request of all originator types (FMP, TWR, AO), unless instructed otherwise by the **NM OM / NM DOM**.

The **NM DOM** shall normally process request of all originator types (FMP, TWR, AO).

The **NM AF** shall only process requests of originator type TWR, unless instructed otherwise by the OM/DOM.

- **Publication of active rules**

The **NM DOM shall** assess whether it is necessary, in exceptional circumstances, to publish any information about active automatic processing rules via the NOP/AIM and propose the publication to the **NM OM.**

5.8.3 Flight Criticality Indicator

Airspace users have the possibility to flag e-Helpdesk requests as critical for:

- Specific flight schedules which are key for airspace users' operations plans, or;

- Flights for which reducing ATFM delay is critical for their business.

Each airspace user can submit a critical request for:

- 5% of its regulated flights;
- A minimum of 1 flight, and;
- A maximum of 20 flights.

Critical requests are highlighted in the B2B or B2C applications flight lists and the e-Helpdesk queue to the NMOC staff for processing in magenta colour. Critical e-Helpdesk requests might be subject to e-Helpdesk automatic processing rules (e.g. automatic rejection) when the FMP cannot accommodate critical flights. This functionality is also available via the B2B communication channel.

Critical e-Helpdesk requests are subject to Network constraints depending on:

- The number of filed flight plans during the day of operations;
- The number of regulated flights in the system.

The criticality flag (magenta colour) will be presented in the following displays:

- ETFMS flight list
- ETFMS Flight Request window (MCDM Flight List)
- B2B or B2C applications flight lists

As specified above, this flag indicates the criticality of a specific flight for AO operations. However, the final decision on improving the flight is in the hands of the NMOC coordinator, who will decide based on Network constraints.

Procedure

Any critical flight arriving in the e-Helpdesk shall not be dealt with by AF or e-Helpdesk staff (NOO), since it requires coordination with FMP/TWR. It shall be referred to one of the NOC, SNOC, AOLO or DOM positions.

NM NOO and AF staff shall:

- Have the following filter applied in the MCDM Flight List:
  - Right click in the Stat column
  - Wildcards / Configure…
  - In Excluding patterns add *C*
  - OK
- Refer any criticality request requiring coordination with FMP/TWR to one of the NM NOC, SNOC, AOLO or DOM positions

NM NOC, SNOC, AOLO or DOM shall:

- Reduce the ATFM delay of the critical flight as much as possible (i.e. irrespective of average delay), by:

1. Forcing the flight to the earliest possible CTOT using all available means without penalising other flights – if the load allows. […]

The other FM Staff should reduce the ATFM delay of the **critical** flight as much as possible (i.e. irrespective of average delay etc.):

1. If the load allows, force the flight to earliest possible CTOT using all available means without penalising other flights;
2. If the above would cause an overload or any other issue, after mandatory coordination with FMP, force or exclude the flight or increase the rate accordingly;
3. If the above is not possible request the AOLO to send an RRP.

In case the **critical** flight is subject to several ATFCM regulations, the impact on all regulations needs to be assessed.

Criticality flag may be communicated only via the e-Helpdesk application, it is not possible to communicate criticality flag via the phone.

FMP must communicate to NMOC when they cannot accommodate or improve critical flights during a specific period. In such cases, this limitation should be clearly indicated in the regulation note and published in the Headline News. When Slot Improvement Minimum Delay or General Auto-Response rules are active, critical flight requests may be affected by these e-Helpdesk rules.

Procedure

FMP shall:

- Communicate and coordinate with NMOC when they cannot accormodate critical flight or improve any flight

NM NOC, SNOC or DOM shall:

- Add in the regulation note when no critical flights or improvements are possible and until when

- Publish in the Headline News for which Regulation it's not possible to accept critical flights and improve flights

- Inform or brief the NM Tactical Team on duty

DOM shall:

- Include critical flights in the Slot Improvement Minimum Delay or General Auto-Response e-helpdesk rules for the Regulation created.

Once critical flights can be accommodated again, the **DOM** or **SNOC** shall:

- Update the Headline News

- Inform and brief the NM Tactical Team on duty.

5.8.4 Earliest Minimum Take-Off Time

Via the e-Helpdesk airspace users are able to provide the earliest take-off time that they can achieve and help the NM Tactical team when finding the most suitable improvement. This can increase the likelihood of getting the requested improvement and reduce the time of response.

5.9 Local Procedures for Participating FMPs

The following options are available for those FMPs that have formal agreements to make use of them.

The FMP tactical ATFCM measures are a reflection of the NM Agreements where applicable.

In addition, there are a number of ATFCM local procedures agreed and published with the FMPs concerned.

5.9.1 FMP Tactical ATFCM Measures

ACCs may use a range of Tactical Capacity Measures (**TCM**) before and after departure intended to optimise available capacity.

5.9.1.1 Level Capping (Internal)

Such measures may affect vertical profiles within an ACC and in the immediately adjacent ACC. ACCs shall ensure that the necessary inter ACC coordinations are carried out before initiating such measures.

Where such measures are proposed to traffic below or adjacent to an ACC, affected flights shall be requested to by the ACC to refile accordingly with the IFPS.

Where early descents are coordinated with adjacent ACCs or within an ACC, AFP messages are not required unless the RFL of the flight between adjacent ACCs has been altered.

Individual coordination of such measures with the NMOC is not required.

5.9.1.2 Reroute Scenarios (Internal)

Tactical rerouteing is applied within the ACC in order to better distribute traffic and to reduce sector complexity and occupancy. Such measures do not require AFP messages.

Individual coordination of such measures with the NMOC is not required.

5.9.1.3 Minimum Departure Intervals (MDI)

Minimum departure intervals (MDIs) are occasionally coordinated between ACCs and adjacent airports and FMPs. These measures can avoid the

requirement for regulations in the ACC area. Application of such measures does not alleviate the requirement for EOBT and CTOT adherence.

The measures are normally used in the tactical phase for short durations and may be requested to major aerodromes / aerodrome groups below or adjacent to the AoR of the ACC. These measures are coordinated directly between the ACC and adjacent FMPs / airports.

Prior coordination with the NMOC for these measures is not obligatory.

5.9.1.4 Miles in Trail (MIT)

Miles in trail (MIT) are occasionally coordinated between sectors in an ACC and adjacent ACCs.

The measures (MIT) are normally used in the tactical phase for short durations and may be requested to adjacent ACCs below or adjacent to the AoR of an ACC. These measures (MITs) are coordinated directly between the ACC and adjacent FMPs.

Prior coordination with the NMOC for these measures is not obligatory.

5.9.2 Cross-Wind Exclusions at Amsterdam Schiphol

Amsterdam Schiphol (EHAM) operates as a hub-airport with high capacities during the peak hours. During inbound mode two landing runways are used and one departure. The outbound mode means one landing and two departure runways.

In situations where high westerly winds restrict the use of the airport heavily, only one runway for landing will be available. More runways are available but only for traffic which can accept high cross-wind components. ATC cannot offer these runways due to legal reasons. However, AOs with destination EHAM may request the use of these runways before taking off.

In such cases a regulation for EHAM arrivals will be applied with the appropriate rate for the single runway in use for landing. Extra capacity can be found in the use of extra runways with high cross-wind component. To make use of this extra capacity the following conditions apply:

- During regular briefings with EHAM, Met-office, aircraft operators (AOs) and ATC-supervisors it will be decided which runways will be used.
- A runway with a high cross-wind component will be available for aircraft which can accept the high cross-wind component.
- AOs will identify flights which could accept high cross-wind and communicate the flights with Amsterdam FMP.
- If the aircraft excluded cannot land, it will be diverted to the alternate airport in the FPL (e.g. EHRD) and will not re-enter the normal arrival sequence.
- The exclusion request will only come from Amsterdam FMP.
- AOs may use the procedure only after having signed a Service Level Agreement (SLA) with LVNL.

Procedure

In cases of heavily westerly winds and where an arrival regulation is applied at EHAM,

the **Amsterdam FMP staff** shall:

- Coordinate with the NM tactical team which flights will be excluded from the EHAM arrival regulation.
- Request the NM tactical team to add the line below to the ANM remark of the EHAM arrival regulation.

The **NM tactical team** shall:

- Include the following line in the ANM remark of the EHAM arrival regulation (if already applied, shallow rectify the regulation, add the text to the ANM remark and Activate Publish it):
  - HHMM-HHMM UTC EHAM CROSSWIND EXCLUSIONS IN USE SEE DUTCH AIP

Note: 'HHMM-HHMM UTC' is the period when this procedure is active, where 'HH' is hours and 'MM' is minutes.

- Exclude the coordinated flights from the EHAM arrival regulation.
- Increase by one the arrival monitoring value (MV) during the concerned hour each time a flight is excluded from the regulation. This is done for monitoring purposes.
- Information on activation of cross-wind procedure to be published on the *NOP Portal – Headline News – Tactical update* accordingly.

5.9.3 Paris Charles de Gaulle Diversion Plan

This procedure is designed to prioritise flights that have diverted to re-position to their original destination: LFPG. This procedure has been agreed with DSNA, LFPG, LFFF FMP and the NMOC.

The AO concerned for each diverted flight shall contact the CDM@CDG.

The assumption is that an arrival regulation will be in force at LFPG. If not already applied, LFFF FMP will request the NMOC to apply an arrival regulation. The rate will be defined through coordination between CDM@CDG and Paris-FMP according to the number of diverted flights, to the CDG Arrival actual Capacity and to the Paris-ACC sectors demand / capacity balancing.

A priority flight list will be established by the CDM@CDG in collaboration with the AOs. This list will be communicated to Paris-FMP (by phone + email), who will then communicate the list to the relevant NMOC tactical position (by phone + fax).

In all cases, flight plans must be updated to reflect the CDM process and the normal CTOT adherence rules apply.

Procedure

In case of an arrival regulation is required to manage diverted flights and re-position them to their original destination,

the **LFFF FMP staff** shall:

- Contact the NM tactical team and request an arrival regulation with the agreed acceptance rate between CDM@CDG and LFFF according to the number of diverted flights / CDG arrival actual capacity / Paris ACC sectors demand and capacity balancing.
- Communicate the priority flight list established by the CDM@CDG in collaboration with the AOs.
- Send the priority flight list by fax.

The **NM tactical team** shall:

- Apply the arrival regulation.
- Collect the relevant information on the priority flight list.
- Force the priority flights into the LFPG arrivals regulation.
- Ensure that all reasonable steps are taken to achieve minimal delay for the diverted flights affected by other regulations.
- Advise AOs that flight plans must be updated to reflect the CDM process and the normal CTOT adherence rules apply.

5.9.4 DSNA Traffic Volume Set

As part of a project to improve performance and optimise the balance between safety and traffic flow DSNA uses a TFV Set attributed to DSNA globally instead of a particular French FMP.

This TFV Set (named **LFDSNA**) is used when a French FMP decides to apply a specific measure to help reduce the delay in another French ACC, thus treating a flow globally inside France instead of a specific sector. The delay will be attributed to France rather than a specific FMP.

The request for the use of LFDSNA may be for a variety of reasons and the appropriate regulation reason should be applied in coordination with the FMP.

Procedure

In the case a French FMP requests the implementation of an ATFCM measure (e.g. regulation or scenario) to protect a global flow in France,

the **DSNA FMP staff** shall:

- Request the NM pre-tactical / tactical team to allocate this delay to the TFV Set: LFDSNA instead of its own local TFV Set using the phraseology: ‘Allocate delay to TFV Set LFDSNA’.

The **NM pre-tactical team** during the pre-tactical phase and the **NM tactical team** during the tactical phase shall:

- Apply the regulation and replace the original TFV Set associated with the TFV being regulated with **LFDSNA**.

Note: If the FMP does not specifically state that the regulation should be allocated to LFDSNA, the original TFV Set shall be left unchanged.

5.9.5 Regulation and Delay Management for Canarias ACC

5.9.5.1 Canarias ACC Sector Regulations – Southerly Wind Conditions

The impact of southerly winds causes a reduction in capacity of GCCCINZ (from a standard 35 to 26) or GCCCIGZ (from a standard 30 to 25).

Procedure

Where southerly wind conditions apply,

the **GCCC FMP staff** shall:

- Request a regulation for **either**:
  - GCCCINZ.
  or
  - GCCCIGZ.

The **NM tactical team** shall:

- Apply the regulation on the required TFV using 'Weather' as regulation reason and **either**:
  - Rate: 26/60 for GCCCINZ.
  or
  - Rate: 25/60 for GCCCIGZ.

5.9.6 Regulation Application at Ibiza Airport

In order to reduce the overall delay at Ibiza (LEIB) and while avoiding the saturation of the airport apron, there has been an agreement between the NMOC and Palma FMP to apply regulations at Ibiza (LEIB) only on arrivals.

In addition, GA traffic (around 30% of the traffic) has a huge impact on operations and causes an imbalance between capacity and demand and a lack of traffic predictability.

Ibiza (LEIB) TWR will manage the departure sequencing including the use of variable and progressive taxi times applied through Palma FMP. In addition, the NMOC will assist with manipulation of CTOTs as necessary (and where possible) to expedite the sequence.

Procedure during tactical operations

Where a demand peak is expected in the arrival traffic on the day of operations,

the **LECP FMP staff** shall:

- Contact the NM tactical team and request to apply a regulation for LEIB arrivals as early as possible.

The **NM tactical team** shall:

- Apply the regulation with the following details:
  - Rate 16/60 when arrival regulation does not exceed 80 minutes, or
  - Rate 14/60 when arrival regulation exceeds 80 minutes.
  - In cases where there is no negative impact on the Global Airport capacity or ATC sectors, rates can be higher during the following hours with the possibility to modify the rate in order to use the whole global capacity of 28/60 of the airport (depending on the foreseen departures).

Regulations' Period: As requested by LECP FMP staff.

Where required and in order to expedite the departure sequence at LEIB,

the **LEIB TWR Supervisor** must:

- Contact LECP FMP staff and request modifications to the taxi time.
- Contact LECP FMP staff and request CTOT extension(s) (see **CTOT extension management**) or modifications to the DTW / STW default parameters (see **Short-term ATFCM solutions**).

The **NM tactical team** shall:

- Assist LECP FMP.
- Perform the CTOT extension(s) or modifications to the DTW / STW parameters (see **Short-term ATFCM solutions**).

In order to comply with the working arrangement outlined in this procedure,

the **LECP FMP staff** shall:

- Timely update the taxi time and MVs for the relevant TFVs in order to comply with the working arrangement outlined in this procedure (see **Updating CACD data in PREDICT / ETFMS** and **Runway criteria update**) according to the pre-tactical information.

5.9.7 Manual suspension for traffic overflying Swiss territory

The objective of this procedure is to ensure that all flight plans for State and Military flights overflying Swiss territory shall be checked for a valid diplomatic clearance issued by the Federal Office of Civil Aviation (FOCA).

A flight plan filed for a State or Military flight intending to fly over Swiss territory without having valid diplomatic clearance will be suspended.

The decision to suspend a flight plan in case of no valid diplomatic clearance shall be made by FMP Zurich or Geneva. The FMP shall request the Network Manager Operations Centre (NMOC) for a flight plan suspension via dedicated telephone lines indicating the details of the flight plans concerned. In case the request for Manual Suspension concerns flights departing outside the IFPZ, NM cannot ensure the FLS will reach the AO in question.

Procedure during tactical / pre-tactical operations

When **Zurich or Geneva FMP** identify a flight with no valid diplomatic clearance, they shall:

- Contact the tactical operations position on telephone number (+32 2 745 1900) with a request for SUSPENSION
- Confirm the request by sending an E-mail to

As soon as the request to suspend a specific flight is received, the **NM DOM (or SNOC)** shall:

- Verify the telephone number FMP ZRH +41 44 801 1302 / FMP GVA +41 22 417 4013 to confirm that the request is indeed originating from the competent FMP.

- Select the specified flight.
- Push the 'Action…' button, bottom-right of the Command Display.
- Select the Action Type: 'Manual Suspend'.
- Insert the following text in the appropriate text box:

  "NO VALID DIPL CLR FOR LS. CHECK SVC MSG. REF AIP LS GEN1.2.5"
- Apply

  In case that suspended flights are accepted to operate over Swiss territory at a later stage, on explicit request from the above-mentioned FMP, the **NM DOM (or SNOC)** shall:
- Select the specified flight from flight list of the traffic Demand
- Push the 'Action…' button, bottom-right of the flight list
- Select the Action Type: 'Remove Manual Suspend'
- Apply

Note: NMOC tactical operations personnel are not required to perform any assessment before executing it. The responsibility for identifying individual flights lies entirely with Zurich or Geneva FMP.

Note: It is essential that coordination in regard to the above procedure shall only take place between NM DOM (or SNOC) and Zurich or Geneva FMP (see above telephone numbers). No other positions within Skyguide or other agencies in Switzerland are empowered to suspend flights without valid diplomatic clearance or de-suspend when the diplomatic clearance has been validated.

5.9.8 LFPB Arrivals Management under Application of RNP APCH Procedures

Under specific conditions, some airports require Performance Based Navigation (PBN) equipment. At Le Bourget airport (LFPB), procedures based on RNP LNAV / VNAV – LPV or LNAV will be used in the event of a planned or unplanned outage of the ILS.

Depending on the RWY configuration, the type of failure or technical intervention, a specific regulation will be used to capture the not properly equipped flights and impose them a different landing rate. It will work in conjunction with an arrival regulation capturing all inbound flights.

The operational objective is to limit the amount of non-equipped flights within a specified arrival rate during the PBN period. To achieve this, two regulations have to be created based on two different traffic volumes. The first traffic volume (LFPBARR) captures all arrivals to LFPB whereas the second one (LFPBRN27 or LFPBRN25 or LFPBRN07) captures exclusively non-equipped flights. The RNP traffic volumes at LFPB are defined as follows:

LFPBRN27: this captures non-equipped aircraft with a lower rate (traffic which are neither – 'B' in field 10a NOR S2 in field18)

LFPBRN07: this captures non-equipped aircraft with a lower rate (Traffic which are not B in field 10a)

LFPBRN25: this captures non-equipped aircraft with a lower rate (traffic which are neither – 'B' in field 10a nor S2 in field18 nor S1 in field 18)

Procedure

LFPG Approach Supervisor shall:

- Monitor LFPB ILS 27 or ILS 07 or LOC 25 availability and contact the LFFF FMP, that will inform NM tactical team of a planned or unplanned outage of the ILS that could lead to the application of the PBN procedure.

LFFF FMP shall:

- Contact NM Tactical team and request the application of an arrival regulation to set a global arrival rate and a second arrival regulation to set a rate for the non-equipped aircraft.

LFPB, LFPG Approach Supervisor and LFFF FMP shall:

- Evaluate the required lead time in order to capture the necessary traffic.

The NM tactical team (DOM / SNOC) shall:

- Implement the regulations based on the LFFF FMP request;
- Publish an AIM (see examples below procedure).

LFFF FMP shall:

- Monitor the regulation flight lists and communicate to the NM tactical team and LFPG approach when necessary.

LFPG Approach Supervisor shall:

- Inform LFPB accordingly.

The NM tactical team (DOM / SNOC) shall:

- Monitor and perform the necessary updates after coordination with LFFF FMP.

There are two cases to be considered:

- **Case 1: There is already a LFPBA 'normal' regulation applied.**
- **Case 2: There isn't any LFPBA regulation applied yet.**

When **Case 1: There is already a LFPBA 'normal' regulation applied** is applied:

The NM tactical team (DOM / SNOC) shall:

- Update the existing regulation and create the new one for non-quipped flights as follows:

Regulation_1 (Deep Rectify)

- TFV: LFPBARR
- Reg. Id: LFPBA22A

- Reg. period: as requested by LFFFFMP (sub-period where the PBN procedure is applicable).
- Rate: as requested by LFFFFMP
- Auto link: NO

Regulation_2 (New) - this captures non-equipped aircraft with a lower rate

TFV LFPBRN27 or LFPBRN07 or LFPBRN25

- Reg. Id: LFPBP22A regulation
- Regulation Period: as requested by LFFFFMP (where the PBN procedure is applicable).
- Rate: as requested by LFFFFMP
- Auto link: YES
- ANM Remark:

In case of LFPBRN27: RNP APPROACH PROCEDURES AT LFPB, NON LNAV/VNAV OR LPV EQUIPPED MAY ENDURE ADDITIONAL DELAY IN ARRIVAL TMA

In case of LFPBRN07: RNP APPROACH PROCEDURES AT LFPB, NON LPV EQUIPPED MAY ENDURE ADDITIONAL DELAY IN ARRIVAL TMA

In case of LFPBRN25: RNP APPROACH PROCEDURES AT LFPB, NON LNAV OR LNAV/VNAV OR LPV EQUIPPED MAY ENDURE ADDITIONAL DELAY IN ARRIVAL TMA

When **Case 2: There isn't any LFPBA regulation applied yet:**

The NM tactical team (DOM / SNOC) shall:

- shall create the following regulations:

Regulation_1 (New)

- TFV: LFPBARR
- Reg. Id: LFPBA22A
- Reg. period: as requested by LFFFFMP (sub-period where the PBN procedure is applicable).
- Rate: as requested by LFFFFMP
- Auto link: NO

Regulation_2 (New) - this captures non-equipped aircraft with a lower rate

TFV LFPBRN27 or LFPBRN07 or LFPBRN25

- Reg. Id: LFPBP22A regulation
- Regulation Period: as requested by LFFFFMP (same as Regulation 1, where the PBN procedure is applicable)
- Rate: as requested by LFFFFMP
- Auto link: YES
- ANM Remark:

In case of LFPBRN27: RNP APPROACH PROCEDURES AT LFPB, NON LNAV/VNAV OR LPV EQUIPPED MAY ENDURE ADDITIONAL DELAY IN ARRIVAL TMA

In case of LFPBRN07: RNP APPROACH PROCEDURES AT LFPB, NON LPV EQUIPPED MAY ENDURE ADDITIONAL DELAY IN ARRIVAL TMA

In case of LFPBRN25: RNP APPROACH PROCEDURES AT LFPB, NON LNAV OR LNAV/VNAV OR LPV EQUIPPED MAY ENDURE ADDITIONAL DELAY IN ARRIVAL TMA

When applying the procedure, the AIM publication should be as follows:

In case of LFPBRN27:

LFPB ARRIVALS (RNP APCH) PROCEDURES

REF : RNP APPROACH PROCEDURES AT LFPB

VALID : WEF: UTC.... UNTIL.... UTC

REG ID: LFPBP22A

TFC : TRAFFIC DESTINATION LFPB WITHOUT RNP APPROACH AUTHORISED CAPABILITIES - S2 (FIELD 18) OR B (FIELD 10A) - MAY ENCOUNTER ADDITIONAL DELAYS

REMARKS:

- FLIGHTS REQUIRING ADITTIONAL INFORMATION SHALL CONTACT LFFF FMP
- FLIGHTS DIVERTING AND NOT YET DEPARTED SHALL CNL THE FPL AND RE-FILE TO ALTERNATE AERODROME
- FLIGHTS NOT INTENDING TO OPERATE SHALL CNL THEIR FPL BY SENDING A CNL MESSAGE

NETWORK MANAGER OPERATIONS CENTRE - BRUSSELS

In case of LFPBRN07:

LFPB ARRIVALS (RNP APCH) PROCEDURES

REF : RNP APPROACH PROCEDURES AT LFPB

VALID : WEF: UTC.... UNTIL.... UTC

REG ID: LFPBP22A

TFC : TRAFFIC DESTINATION LFPB WITHOUT RNP APPROACH AUTHORISED CAPABILITIES - B (FIELD 10A) - MAY ENCOUNTER ADDITIONAL DELAYS

REMARKS:

- FLIGHTS REQUIRING ADITTIONAL INFORMATION SHALL CONTACT LFFF FMP
- FLIGHTS DIVERTING AND NOT YET DEPARTED SHALL CNL THE FPL AND RE-FILE TO ALTERNATE AERODROME
- FLIGHTS NOT INTENDING TO OPERATE SHALL CNL THEIR FPL BY SENDING A CNL MESSAGE

NETWORK MANAGER OPERATIONS CENTRE - BRUSSELS

In case of LFPBRN25:

LFPB ARRIVALS (RNP APCH) PROCEDURES

REF : RNP APPROACH PROCEDURES AT LFPB

VALID : WEF: UTC.... UNTIL.... UTC

REG ID: LFPBP22A

TFC : TRAFFIC DESTINATION LFPB WITHOUT RNP APPROACH AUTHORISED CAPABILITIES – S1 OR S2 (FIELD 18) OR B (FIELD 10A) - MAY ENCOUNTER ADDITIONAL DELAYS

REMARKS:

- FLIGHTS REQUIRING ADITTIONAL INFORMATION SHALL CONTACT LFFF FMP
- FLIGHTS DIVERTING AND NOT YET DEPARTED SHALL CNL THE FPL AND RE-FILE TO ALTERNATE AERODROME
- FLIGHTS NOT INTENDING TO OPERATE SHALL CNL THEIR FPL BY SENDING A CNL MESSAGE

NETWORK MANAGER OPERATIONS CENTRE – BRUSSELS

5.10 ASM / ATFCM Network Impact Assessment

The application of the FUA concept ensures that, through the daily allocation of flexible airspace structures, any necessary segregation of airspace is based on real usage within a specific time period and airspace volume.

Civil-military coordination

Airspace Use Plan (AUP) and Updated Airspace Use Plans (UUPs) are produced by AMCs to allow concurrent civil-military operations.

These plans need to be incorporated into pre-tactical and tactical operations with minimum disruption to civil traffic as well as allowing effective military operations.

Within the NMOC Network impact assessment procedures the AUP / UUP process defined in the ASM Handbook is described as the following procedures.

5.10.1 Management of the AUP / EAUP (ASM / ATFCM Procedure 1)

Optimising capacity usage via an assessment on the impact on the network of expected airspace allocation during activities the day before operation. This procedure is finalised with the publication of the European AUP (EAUP).

Procedure

Having received a draft AUP **on D-1** and together with the NM pre-tactical team,

the **MILO** shall:

- Update PREDICT with the draft AUP.
- Analyse the draft AUP impact on previously identified hot-spots.
- Identify potential additionally created problem areas.
- Assess the impact of the request at network level (e.g. on-loading sector, sector reconfiguration, complexity, work load etc.).
- Optimise requested airspace allocation (e.g. changing the activation time, flight level band, CDR1 closure details).
- Coordinate requested changes with the responsible Airspace Management Cell (AMC).
- Inform the NM pre-tactical team about the result of the coordination with the AMC.
- Brief FM Tactical staff and the NM AOLO for the next day.

The **NM pre-tactical team** shall:

- Inform the MILO of any identified en-route areas of high density traffic demand that exceed the available capacities by a significant margin (hot-spots).

Having been informed by the MILO regarding the AUP intention to implement airspace segregation,

the **NM pre-tactical team** shall:

- Analyse the draft AUP impact on previously identified hot-spots.
- Identify potential additionally created problem areas.
- Verify with the responsible FMP if this new situation has got capacity impact resulting in monitoring/capacity value update in ETFMS.
- Assess the impact of the request at network level (e.g. on-loading sector, sector reconfiguration, complexity, work load etc.).
- Coordinate with the MILO for optimisation of airspace allocation (e.g. changing the activation time, flight level band, CDR1 closure details).
- Brief FM Tactical staff and the NM AOLO for the next day.

Should the optimisation be refused by the AMC,

the **NM pre-tactical team** shall:

- Look for and evaluate all possible ATFCM solutions in order to minimise Network disruptions.

- Coordinate the resulting ATFCM solutions with all relevant parties.
- Update the draft ATFCM Daily Plan (ADP).
- Update the Network Brief.

Having received a briefing from the NM pre-tactical team and the MILO on D-1,

the **NM tactical team** shall:

  - Prepare a briefing document for the day of operations in coordination with the NM AOLO. The document shall include:
  - Expected situation from the D-1 plan.

- AUP/UUP opportunities identified.
- Ensure that this information is disseminated externally if deemed appropriate.

Having received a briefing from the NM pre-tactical team and the MILO on D-1,

the **NM AOLO** shall:

- Contribute towards the briefing document prepared by the NM tactical team for the day of operations.

5.10.2 Management of the UUP / EUUP (ASM / ATFCM Procedure 2)

Making better use of airspace opportunities (alteration of airspace restrictions, increase route availability) on the day of operations in order to provide additional route options to aircraft operators. This procedure is finalised with the publication of European Updated Airspace Use Plan (EUUP) whenever required.

Note: This procedure is, according to the **ASM Handbook**, not compulsory to all states.

Procedure during pre-tactical operations

On D-1, having received new UUPs,

the **MILO**, in conjunction with the NM pre-tactical team, shall:

- Analyse the UUPs impact on previously identified hot-spots.
- Analyse the UUPs for additional route availability and advise the NM AOLO.
- Contribute to briefing by NMOC Pre-tactical to the NM tactical team and NM AOLO for the next day on:
  - Expected situation from D-1 plan
  - AUP/UUP opportunities identified

Having received new UUPs,

the NM pre-tactical team shall:

- Analyse the UUPs impact on previously identified hot spots.
- Adapt the draft ADP for increased availability given by the UUP.

Having received a briefing from the NM pre-tactical team and the MILO on D-1, in coordination with the NM AOLO,

the **NM tactical team** shall:

- Prepare a briefing document for the day of operations. The document shall include:
  - Expected situation from D-1 plan.
  - AUP / UUP opportunities identified.
- Ensure that this Information is disseminated externally if appropriate.

After receiving a briefing from the NMOC Pre-tactical and MILO,

the **NM AOLO** shall:

- Contribute towards the briefing document prepared by the NM tactical team for the day of operations. The document shall include:
  - Expected situation from D-1 plan.
  - AUP/UUP opportunities identified.

Procedure during tactical operations

On the day of operations, having received a UUP,

the **MILO**, in conjunction with the NM tactical team, shall:

- Analyse the impact of the UUP on previously identified hot-spots.
- Analyse the UUPs for additional route availability and advise the NM AOLO.

The **NM tactical team** shall:

- Ensure that NM tactical team members brief themselves from the briefing document produced on D-1.
- Analyse the tactical situation and re-evaluate opportunities.
- Continue to review and re-evaluate opportunities with each released UUP.

The **NM AOLO** shall:

- Brief themselves from the briefing document produced on D-1.
- Review and re-evaluate opportunities with each released UUP.

5.10.3 UUP Requesting Additional Airspace / Route Segregation (ASM / ATFCM Procedure 3)

Ensuring more flexible use of airspace on the day of operations in order to better respond to ad-hoc military needs while minimising the negative impact on the network. This procedure is finalised with the publication of EUUPs according to the procedures described in the ERNIP Part 3 ASM Handbook.

Note: This procedure is, according to the **ASM Handbook**, not compulsory to all states.

Procedure during pre-tactical operations

In the event of a UUP requesting additional airspace or route segregation,

the **MILO** shall:

- Assess the impact of the request at Network level (e.g. on-loading sector, sector reconfiguration, complexity, work load etc.).
- Optimise requested airspace allocation (e.g. changing the activation time, flight level band, CDR1 closure details).
- Coordinate requested changes with AMC responsible.
- Inform the NM tactical team about the result.

The **NM pre-tactical team** shall:

- Assess the impact of the request at network level (e.g. on-loading sector, sector reconfiguration, complexity, work load etc.).
- Look for and evaluate all possible ATFCM solutions in order to minimise Network disruptions.
- Coordinate the resulting ATFCM solutions with all relevant parties.
- Update the draft ADP.
- Update the Network brief, INP and NOP Portal.

In coordination with the MILO,

the **NM pre-tactical team**, shall:

- Brief the NM tactical team and the AOLO for the day of operations:
  - Expected situation from D-1 plan.
  - AUP/UUP opportunities identified.

Procedure during tactical operations

In the event of a UUP requesting additional airspace or route segregation,

the **MILO** shall:

- Coordinate with the NM tactical team.
- Assess the impact of the request at Network level (e.g. on-loading sector, sector reconfiguration, complexity, work load etc.).
- Optimise requested airspace allocation (e.g. changing the activation time, flight level band, CDR1 closure details).
- Coordinate requested changes with AMC responsible.
- Inform the NM tactical team about the result.

Having been informed by the MILO regarding the intention to implement new or increase already published airspace segregation,

the **NM tactical team** shall:

- Verify with the responsible FMP if this new situation has got capacity impact resulting in monitoring/capacity value update in ETFMS.
- Assess the impact of the request at network level (e.g. on-loading sector, sector reconfiguration, complexity, work load etc.).
- Coordinate with the MILO for optimisation of airspace allocation (e.g. changing the activation time, flight level band, CDR1 closure details).

When optimisation is refused by the AMC,

the **NM tactical team** shall:

- Identify the flights impacted by the route closure.
- Try to reduce Network impact by looking for opportunities.
- Suggest rerouteing.
- Inform the NM AOLO.

Having been informed by the NM tactical team regarding an additional airspace or route segregation,

the **NM AOLO** shall:

- Identify the flights impacted by the new UUPs update.
- Look for the opportunities.
- Send RRPs in coordination with the NM tactical team.

6 PROCEDURES IN UNUSUAL CIRCUMSTANCES

6.1 Adverse Operating Conditions at Aerodromes

Normal operating procedures at aerodromes can be affected by events which make compliance with ETOTs and CTOTs difficult or which may have an impact on arrivals.

6.1.1 Short-Term ATFCM Solutions

The NMOC may be able to minimise the impact of adverse operating conditions 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 deterioration in local operating conditions and ETOT or CTOT cannot be met within the approved tolerance windows, the procedure described below may apply.

The procedure is designed to be in effect for a maximum of a 1 hour period of time, but it can be extended if necessary. The request has to be repeated every hour to confirm that the adverse condition continues and to verify if the current Network situation allows for further extensions. The maximum values of the Slot Tolerance Window (**STW**) / Departure Tolerance Window (**DTW**) are shown in the table below (except for traffic departing from A-CDM where a discretionary extension may be applied after assessing the Network impact).

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

The procedure is aimed to cope with situations such as:

- Emergencies at the aerodrome;
- ATC system failures at the aerodrome or at the ACC not yet reflected in ATFCM measures but which may prevent departures for a short period;
- Departure rate significantly lower;
- Adverse weather (e.g. unmanageable de-icing conditions);
- Any other situation that may be identified as affecting the operation of the aerodrome.

The procedure shall not be used in case of an individual flight that cannot make its CTOT or ETOT, low visibility conditions or routine de-icing procedures.

The application of this procedure will modify the DTW for non-regulated flights and the STW for regulated flights. Values for both STW and DTW should normally be equally extended by the agreed amount of time.

Departures from non-CDM aerodromes

Departures from non-CDM aerodromes are not subject to any other conditions apart from those mentioned above.

Procedure

Where a need for a temporary modification of the taxi time or increase of the DTW / STW and / or exemption for one or more affected regulated aircraft from one of the **non-CDM aerodromes** of their responsibility,

the **FMP staff** shall:

- Check that the situation applies.
- Coordinate with the NM DOM,
  - to update the taxi time (see **Runway criteria update**);
  - to obtain approval for short term modifications to the STW / DTW;
  - for the exemption of specific flights from the departure regulation (see **Manual exemptions**).

The **NM DOM** / SNOC shall:

- Assess the Network impact, especially in adjacent sectors of neighbouring ACCs.
- In case the Network impact analysis shows no particular problems, approve an extension of STW and DTW and introduce these values in the ETFMS and / or exempt the specific agreed flights.
- In exceptional circumstances (e.g. sector loads already close to or at their limits), coordinate with the FMP, devise alternative solutions (e.g. application of a regulation).
- Neither grant STW / DTW flexibility nor exemptions for any specific flight going into congested areas (high delay and adverse conditions).
- Inform the airport(s) / FMP(s) associated with receiving the main traffic flow about the new STW / DTW values (e.g. via AIM).
- Log the corresponding agreement in DNP Editor.

Departures from A-CDM

Departing flights from CDM airports, 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, T-DPI-s falling within the STW will be accepted and profile updated. Should the updates bring the take-off time after the STW, the ETFMS will consider it as a DLA message and may recalculate the CTOT, cancel the slot or suspend the flight.

T-DPI-s bringing the flight before STW will be taken as ‘No slot before’, the flight will receive REA status and the flight should not be forced before the provided TTOT time.

In case of unmanageable de-icing problems, DTW / STW extension is possible for de-icing flights (if the de-icing status is present in the DPI message only those flights should be selected). If the slot extension for de-icing flights is not sufficient to improve the situation, a general DTW / STW extension may be requested. In such cases an extension of 10 minutes to the upper boundary is possible (see De-icing).

Depending on how difficult the adverse situation is at the affected A-CDM, the maximum values for the upper boundary of the DTW / STW may be further extended, but only where capacity is reduced at least to a 20% of its nominal value (as stored in CACD).

Procedure

Upon the expectation of adverse conditions, when a decrease of departure capacity is expected (e.g. single RWY operations, adverse weather operations, etc.) at an A-CDM,

the **FMP / TWR** in charge shall:

- Contact the NM DOM and increase awareness on an upcoming adverse situation.

The **NM DOM** shall:

- Inform the network about the potential delay at the specific airport (e.g. via AIM, NOP Portal).

In the event of confirming the adverse operating conditions,

the **FMP / TWR** in charge shall:

- Inform the NM about the specific deterioration in service provision (see **INFORMATION REQUIRED FROM FMP / TWR FOR CDM AERODROMES**).
- Identify the problems they are encountering.
- Coordinate with the NM DOM,
    - to update the taxi time (see **Runway criteria update**);
    - to obtain approval for short term modifications to the STW / DTW;

The **NM DOM / SNOC** shall:

- Assess the Network impact, especially in adjacent sectors of neighbouring ACCs.
- In case the Network impact analysis shows no particular problems, approve an extension of STW and DTW and introduce these values in the ETFMS and / or exempt the specific agreed flights.
- In exceptional circumstances (e.g. sector loads already close to or at their limits), coordinate with the FMP, devise alternative solutions.
- Neither grant STW / DTW flexibility nor exemptions for any specific flight going into congested areas (high delay and adverse conditions).
- If necessary, inform the airspace users via AIM, NOP Portal.
- Inform the airport(s) / FMP(s) associated with receiving the main traffic flow about the new STW / DTW values (e.g. via AIM).
- Log the corresponding agreement in NMOC Internal Portal.

In case of **severely disrupted operations** at an airport,

the **NM DOM** may:

- Force a small number of flights to depart after the STW but with a CTOT equal to the updated TTOT.

6.1.2 Management of Low Visibility Conditions

Whenever low visibility conditions are forecast for an aerodrome in the area of responsibility of a particular FMP, such conditions may reduce the capacity so as to require ATFCM measures to be applied.

Reduced landing rates at certain busy European airfields during low visibility conditions can lead to excessive holding and a reduction in ATC capacity in adjacent ATC sectors.

There are three main possibilities:

- Do nothing.
- Apply a regulation without XCD.
- Apply a regulation with XCD.

The **'do nothing'** option is available if, despite the demand, the capacity is still sufficient and enough airborne holding is available to accommodate traffic demand.

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 may occur. If this happens, it may 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.

The FMP, after coordination with the TWRs is aware of the achievable landing rate for inbound traffic associated to RVR capabilities. Then a regulation without exceptional conditions (XCD) may be effective, as confirmation is not necessary.

Note: Caution should be exercised if low visibility conditions are forecast for a limited time, as forecasts may be inaccurate. In these circumstances a simple regulation may be applied as a precautionary action. 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.

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** may 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. The RVR value used may not be directly related to the actual RVR at the aerodrome. It is a figure that may be used to filter the traffic which can be permitted to proceed.

6.1.2.1 Low Visibility Condition – Without Exceptional Conditions (XCD)

The procedure is aimed at situations where a regulation is not deemed appropriate or a regulation without XCD is considered more beneficial.

Procedure

The **FMP staff** shall:

- Monitor actual and forecast weather for the aerodromes of their responsibility and promptly notify the NM tactical team of potential problems arising.
- Analyse demand and capacity in impacted aerodromes and airborne holdings.
- Analyse existing regulations.
- Where considered appropriate, request a regulation.
- Where a regulation is requested:
  - Provide the NM tactical team with the rates, time period and all other associated information (see **Apply a regulation**).
  - Monitor the load after the implementation of the regulation.
- If actual conditions deteriorate or improve, notify the NM tactical team as soon as possible and provide updates as required.

The **NM tactical team** shall:

- Monitor actual and forecast weather and promptly notify FMP staff of potential problems arising.
- Obtain relevant information from the FMP and issue a low visibility alert message (AIM) to warn the AOs of the possible application of ATFCM measures and invite them to send an FCM with their RVR minima.
- Apply a regulation as requested by the FMP.
- Monitor the load after the implementation of the regulation.

6.1.2.2 Low Visibility Conditions – With Exceptional Conditions (XCD)

The low visibility XCD is implemented as follows, a single regulation should be created for the required TFV:

- with XCD and a rate for the low visibility period, and
- without XCD and a rate as necessary when resuming normal operations.

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

Case 1

Flights estimating during the XCD time are suspended, **if RVR is not known**. 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. The FLS will include the comment: 'RVR UNKNOWN'.

Note: Exempted flights (but not long haul) will also receive an FLS. If, later, the RVR is known and sufficient a DES will be sent or if it is insufficient a SAM will be sent.

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

Case 2

Flights, estimating during the XCD time **with RVR in FCM or flight plan 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 (but not long haul) will receive a SAM in order to arrive outside the XCD period. If later the RVR value of the exempted flight becomes sufficient an SLC will be sent.

Case 3

Flights estimating during the XCD time, having replied **with an FCM or flight plan 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.

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

The fact that the EOBT of a delayed flight (because RVR criteria not met) is no longer shifted will increase the visible delays. Care should be taken that these flights with a large visible delay are not manually forced into an XCD period where they are unable to land.

The decision for implementation and ownership of the ATFM regulation lies with the FMP.

Procedure

The **FMP staff** shall:

- Coordinate with the NM tactical team the need of a regulation and provide the traffic volume (arrival), rates, time period of validity, regulation reason and RVR value.

The **NM tactical team** shall:

- Coordinate the traffic volume (arrival), rates, time period of validity and RVR value with the FMP staff.
- Inform the NM DOM.
- Create a new regulation:
  - With XCD as ANM remark.
  - Select '**XCD**' and '**Shift**'.
  - Introduce the agreed values: rate, time of applicability, reason, RVR
- Activate and publish the regulation.
- **Auto-link** the regulation (it will avoid that non-compliant RVR aircraft are pushed into the regulation).
- Keep the Helpdesk informed.

The **NM DOM** shall:

- Ensure that an AIM is prepared and issued with information about the new XCD regulation.

Modify an XCD low visibility regulation

If a modification to the XCD regulation is required to adapt to new circumstances (improvement or deterioration),

the **FMP staff** shall:

- Request these changes to the regulation.

The **NM tactical team** shall:

- Coordinate the new values: rate, RVR and ending time of the regulation.
- When modifying only RVR, do not change any times.
- Modify the rate as agreed with the FMP.
  - If the regulation has **not started**, modify the rate, end time of the regulation and RVR (if necessary).
  - If the regulation has **started**, add a sub-period with XCD selected and new rate and RVR (if necessary).
- Inform the NM DOM.
- Keep the Helpdesk informed.

The **NM DOM** shall:

- Ensure that an AIM is prepared and issued informing the users of the modifications.

6.1.3 De-Icing

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.

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 ATC delay. It also offers ATC and the AO greater flexibility in such conditions. It is expected that the coordination process will be reflected in the taxi time.

The NM will not normally give additional slot tolerance increases to flights departing from 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, the DTW and STW could be extended for a maximum period of 1 hour. It can be extended if necessary. The request has to be repeated every hour to confirm that the adverse condition continues and to verify if the current Network situation allows for further extensions.

Procedure

The **FMP staff** shall:

- Agree with ATC at the aerodrome on any changes to the taxi time for the aerodrome.
- Coordinate with the NM tactical team as soon as possible which actions should be taken:
  - Increase the taxi time (see **Runway Criteria Update**) and ensure that the changes are notified to the NM tactical team at least two hours prior to the likely implementation of de-icing procedures for that aerodrome.
  - Consider modification to the slot tolerance window (STW) or departure tolerance window (DTW) (see **Short-term ATFCM solutions**). Only when the situation at a particular aerodrome becomes unmanageable.

- If the problem is foreseen to extend beyond 1 hour then, for non-CDM airports, apply a departure regulation with a monitoring value which can be accepted (see **Apply a regulation**).

The **NM tactical team** shall:

- Coordinate and advise the FMP staff upon reception of such a request.
- Apply the agreed solution.
- Monitor its implementation.
- If the situation at the airport becomes unmanageable, extend the DTW and STW for a maximum period of 1 hour (as it is described in **Short-term ATFCM solutions**).

6.1.4 Exemption [EM] flow ATFM Procedure for short duration weather events at airports

The Exempted [EM] flow procedure for short weather [WX] events is designed for NMOC and FMPs to manage short duration weather phenomena at airports, while alleviating flights with EET equal or longer than 3 hours from unnecessary ATFM delay.

If a bad weather event of short duration, normally due to fog or low cloud, is forecast, the FMP can request NMOC to apply a regulation on a dedicated traffic volume (TFV) that specifies the exempted flow locations.

The TVs are defined by the FMPs in prior coordination with NMOC. Detailed “FMP checklist” guideline document, is available on the SMART WX taskforce web page. The ”FMP checklist” explains the logic and conditions for using the [EM] flow procedure for short WX.

FMPs that intend to apply for joining EM flow procedure, can submit requests to the following address: shortwx@eurocontrol.int

Before applying the procedure, the FMP needs a prior approval to use it. The list with the FMPs that received approval to use the EM flow procedure for short weather is published on the NOP and is available in the latest version of IN “FMPs and Airports participating in the [EM] flow Short weather Procedure”.

Rules for application of [EM] flow WX procedure and normal ATFCM weather regulation, depending on the duration of the predicted weather event:

- Predicted WX phenomenon duration < = 2 hours, then [EM] flow WX TFV to be used.
- Predicted WX phenomenon duration between 2 hours and 3 hours à [EM] flow WX TFV may be used with NMOC approval.
- Conditions under which [EM] Flow weather procedure shall not be used:

Predicted WX phenomenon duration >= 3 hours à Normal ATFCM weather regulation shall be used.

Also take note of the following:

If an existing [EM] flow WX TFV regulation (up to 3 hours) needs to be extended tactically, it shall always be followed by a normal ATFCM weather regulation.

Procedure

Having received a request from an FMP to apply the [EM] flow procedure for short weather event,

the NM Tactical team shall:

- Apply an [EM] flow WX regulation based on the dedicated traffic volume with EM flow and requested arrival rate.
- In case the regulation is for a period between 2-3 hours, coordinate with FMP if the network impact does not allow the application of the [EM] flow procedure for short weather.

Having coordinated with NM the application of an [EM] flow WX regulation,

the FMP staff shall:

- Monitor for close-in departures through flights in ready status. Aiming to maximise the available capacity, short sector flights, which are easier to manage, must be promptly inserted in the arrival sequence when a window of opportunity is identified by the FMP and upon WX improvement.
- Request the NMOC Flow Managers to improve CTOTs for the short- sector flights to promptly integrate them in the arrival stream.

Operational feedback and post-ops analysis

The implementation of the "[EM] flow ATFM procedure for short duration weather events at airport" is reported regularly to internal and external stakeholders in the context of the Network Manager working arrangements. Meetings with individual FMPs can be held upon request submitted to **shortwx@eurocontrol.int**.

6.1.5 Interruption of DPI Messages

The interaction between the NMOC and CDM aerodromes requires two conditions to be met:

- a functional local A-CDM implementation governed by thorough local CDM procedures and
- fully operational systems on both sides (NMOC and Airport) combined with a flawless system-to-system communication.

However, operational issues or technical system failures can deteriorate the quality of the DPI messages, to the extent that they are no longer providing valuable progress status of the flights and / or resulting in further disturbance of operations at the airport. This procedure allows the temporary interruption of DPI messages.

In case of disrupted operations at the CDM airport, **Short-term ATFCM solutions** Departures from A-CDM, as an initial mitigation measure. In order to judge the severity of the disruption, consult **LEVELS OF IMPACT ON NETWORK OPERATIONS OF CDM AIRPORTS** as reference. If the operational consequences are further degraded than the conditions set out in this section (TSAT / TTOT transmitted via the DPI messages are less reliable than the FPL EOBT / ETOT) this procedure may apply.

Several systems are involved in the A-CDM information sharing process. Hereunder is a list of possible unplanned issues that might affect the systems and the communication line:

- Technical failure of one of the airport CDM systems.
- Instable pre-departure sequencer used by the FMP / TWR.
- Loss of communication between airport CDM systems.
- Technical failure affecting the communication between ETFMS and the Airport systems.
- Failure of the NM B2B Web Service.
- And others.

In such cases of technical system failures, this procedure may apply.

Planned interventions / outages such as technical maintenance could also cause a temporary interruption of the DPI transmission during a known period of time. In such cases this procedure may apply.

Note: The NMOC does not monitor the quality and completeness of the reception of DPI messages on a continuous basis.

Procedure

Where a deterioration of the quality of DPI messages is identified,

the **FMP / TWR staff** shall:

- Contact the NM DOM.
- In coordination with the NM DOM:
  - Identify the cause for DPI deterioration: severely disrupted operations, technical system failure or planned technical maintenance / outage.
  - Verify if all other options for dealing with this type of situation have been evaluated (see **Short-term ATFCM solutions**).
- Inform the NM CSO of technical system failures or any planned technical maintenance / outage.
- In case of planned technical maintenance / outage, allow a notice period of at least one day before the start of the intervention.
- If required, request the NM DOM to interrupt the DPI connection by using the following terminology: ‘Disable all DPI message processing from <hh:mm>, <ICAO code> airport in Local Mode’.
- Coordinate with the NM DOM:
  - The time period when the interruption of the DPIs is in place.
  - A time when the coordination will be resumed in order to reassess the situation.
- After the disabling of DPI processing in the ETFMS, follow the procedures defined for non-CDM aerodromes.
- If it is decided to disable the transmission of DPI messages, use the following terminology to inform the NM DOM: ‘<ICAO code> airport will disable transmission of DPI messages for departure starting at <hh:mm> for approximately <time in hours> hours (or Until Further Notice) due to <specify reason>’.

The **NM DOM** shall:

- Contact the FMP / TWR staff (in case the FMP / TWR staff have not reported yet).
- In coordination with the FMP / TWR:

    - Identify the cause for DPI deterioration: severely disrupted operations, technical system failure or planned technical maintenance / outage.
    - Verify if all other options for dealing with this type of situation have been evaluated (see **Short-term ATFCM solutions**).
- Inform the NM OM, in case of a request to interrupt DPI messages.
- Coordinate with the FMP/TWR:
    - The time period when the interruption of the DPIs is in place.
    - A time when the coordination will be resumed in order to reassess the situation.
- Inform the NM CSO of technical system failures.

The **NM OM** shall:

- Approve the interruption of DPI messages from the concerned aerodrome.
- Contact the NM APT Unit if the issue remains unsolved.

The **NM DOM** shall:

- Disable DPI processing in the ETFMS for the concerned aerodrome.
- Ensure that an AIM is sent and the Headline News is updated.
    - In case of planned technical maintenance / outage, a single AIM with the period of intervention needs to be sent.
    - In case of planned technical maintenance / outage with duration of less than 3 hours, it is not needed to disable the DPI processing in the ETFMS. Otherwise, the same procedure applies as for unplanned issues described before.

Once the FMP / TWR staff decides that DPI messaging can be resumed,

the **FMP / TWR staff** shall:

- Request the NM DOM to enable DPI processing in the ETFMS.

The **NM DOM** shall:

- Enable DPI processing in the ETFMS for the concerned aerodrome.
- Ensure that an AIM is sent.

6.2 Management and Recovery of a Disruption

The objective of this operational procedure is to improve the management and the recovery process following a major disruption (mainly for ANSP system failures, but the same concept is applicable to any other kind of disruption affecting the Network).

The decision for implementation and ownership of the ATFM regulation lies with the FMP.

6.2.1 Disruption Phase

The NM and FMPs will apply measures (zero rate or any other rate agreed with FMP) with an initial standard duration of 2 (two) hours, to be reviewed every 30 minutes. However, a different initial zero / low rate regulation duration could be set, depending on the type or location of the disruption and taking into account the flight list (high number of long haul flights). This procedure can be applied for en-route sectors, AUA and aerodromes.

FMPs will nominate a disruption focal point that will be responsible to coordinate with the NM point of contact - Head of Operations or NM OM - the information to be published in NOP ref the disruption reason and any other relevant information on the end of disruption and start of the recovery phase. The ANSP focal point will contact the Head of Network Operations (+32 499 942365) or the NM OM (+32 2 745 1931).

All the technical coordination about ATFCM measures application, possible extension and, mitigation measures will be performed by NM DOM / SNOC and FMP (except the initial application of the regulation when disruption is notified, assuming that the first call to NMOC will be done with the NM NOC – CASA position).

The use of Flight Confirmation Message (FCM)

If FCM is used: XCD must be selected as well and all flights, including the exempted flights, originating from the ATFCM Area and the Adjacent Area will be affected by the regulation during the non-availability and will be suspended (FLS). At the reception of an FLS, AOs must send an FCM if the flight still intends to operate. They will receive a SAM / SRM in order to arrive after the re-opening time. The SAM / SRM will include the comment: 'AERODROME OR AIRSPACE OR POINT NOT AVAILABLE'. Flights not confirming will remain suspended. Where AOs prefer to operate to an alternate destination for flights not yet departed, they must cancel the FPL and refile to the alternate aerodrome (in case of aerodrome not available).

The use of delay threshold mechanism

If the delay threshold mechanism is used: flights with a delay larger than the threshold (usually 3 hours in this case) will be suspended (FLS) and those with a delay lower than the threshold will receive a SAM. Exceptional conditions (XCD) may be used together with delay threshold mechanism to capture exempted flights.

The use of Exceptional Conditions

In the event of the non-availability (zero-rate regulation) of an aerodrome or airspace, NM exceptional conditions (XCD) should be used. FPLs will be accepted in the IFPS and processed by the ETFMS accordingly. The ETFMS will either suspend flights or delay flights originating from the ATFCM Area and the Adjacent Area (including the exempted flights) to arrive when the aerodrome or airspace is available. After the non-availability period, the regulation should continue without XCD to regulate a possible bunching if needed.

The use of 'Chaotic situation'

Setting 'Chaotic situation' will automatically set the 'OBT AFTER' to 30 minutes before the current clock time and de-select 'Protect A-DPI flights' in order to capture as much traffic as possible. Depending on the nature of disruption, the OBT AFTER may be further adjusted – check the flight list and coordinate / evaluate with the FMP if necessary.

Any zero-rate regulation extension has to be applied with deep rectification and '**Chaotic situation**' set in the Slot Change Control Display in order to ensure that all flights still on the ground but close to or after OBT will be captured.

Any of the above practices require prior coordination with FMP and relevant information published in NOP Portal or via AIM.

Procedure

The **FMP staff** shall:

- Coordinate with the relevant CASA position (manned by the NM NOC) the need of a zero-rate regulation (or any other low rate decided by the FMP) and provide the traffic volume(s) and the regulation reason, based on local contingency plans/procedures. The regulation should not exceed 2 hours duration, unless other reasons require a different duration.
- Contact the NM DOM / SNOC **every 30 minutes** to update the ATFM regulation, if necessary.
- Provide the expected end time of the disruption, as available, if not done by the ANSP focal point.

The **NM NOC in CASA position, following the first call from the FMP, shall**:

- Apply the ATFM measure(s) not exceeding 2 hours:
  - For a zero rate regulation:
    - Select '**XCD**' and '**Shift**' and add 'XCD' as ANM remark.
    - Introduce the agreed values: zero rate, time of applicability, regulation reason.
    - Set '**Chaotic situation**' in the Slot Change Control Display.
  - For a low rate regulation:
    - Introduce the agreed values: rate, time of applicability, regulation reason.
- **Auto-link**, activate and publish the regulation.
- Handover the NM DOM / SNOC on duty.

The **NM DOM / SNOC** shall then**:**

- Take-over any further coordination and action agreed with the FMP and open a dedicated disruption position if necessary.
- Coordinate the diversion management in order to accommodate rerouted flights.
- Depending on the amount of flights bunching at the end of the ATFCM measures and considering the impact on AOs and the Network impact, evaluate, in coordination with the FMP, the use of **FCM** or **Delay Threshold Mechanism** (with a value of 3 hours).
- Inform adjacent ANSPs the Network impact of the bunching.
- Inform stakeholders via the NOP Portal Headline News and AIM of:
  - any **ATFCM measure applied**,
  - the reason of the disruption as communicated by the ANSP focal point to Head NOS or NM OM **(avoid the word ''closure'' but rather use airspace or aerodrome unavailability)**,
  - information on **airports capability for diversion management**,
  - **information for long haul flights (see the note below),**
  - the **prognosis for the coming hours**,

Note: Even if there is no info, there should be communication that 'news is expected in 'x' minutes' or 'no news available at this stage'.

- Keep the Helpdesk informed about the delay situation.

  Note: Advise long-haul flights (via Headline News or AIM) not captured by the initial 2 hour regulation, that landing at destination is not granted as the end of the disruption is unknown, so inviting them to fuel for the alternate or the nearest available airport.

- Inform the Aircraft Operators Liaison Cell (AOLC) as soon as the disruption is notified to the NMOC. The AOLC will provide AOs info on the disruption, if delegated by the Head of NOS or by the NM OM.

If **no contact is received 30 minutes** after the initial application of the ATFCM regulation,

The NM **DOM / SNOC** shall:

- Call the FMP asking whether to extend the regulation by one hour or any other agreed period, considering the available end of the disruption expected time.
- Extend any zero-rate regulation with a deep rectification and '**Chaotic situation**' set in the Slot Change Control Display.

This procedure will be applied until the end of the disruption period.

6.2.2 Recovery Phase

At a certain point in time, the FMP will communicate to the NMOC that the problem is going to be solved and therefore it will be necessary to replace the disruption measures with recovery measures. If the recovery sector configurations / capacities are updated frequently at short notice by the FMP, often not taking into account the flights bunching at the end of the disruption measures, it may cause heavy fluctuations to individual flight delays and departure time uncertainty for AOs (receiving several SRMs). The application of the recovery procedure will address the bunching issue and it will minimise CTOT fluctuations, giving AOs more stable departure times, and improving Network predictability. However, a stable CTOT will only be achieved when full capacity/sector configuration will be provided by the FMP.

As the duration of the recovery measures depends on the capacity values and sector configuration availability, it is not possible to set any fixed value beforehand.

The ANSP focal point will continue to coordinate with Head of Network Operations or the OM any possible relevant info on the recovery phase (the technical coordination will still be performed by DOM/SNOC and FMP).

Procedure

At a certain point in time the FMP will communicate the DOM / SNOC that the disruption is (going to be) solved and ATFCM regulations need to be updated. Usually there is a bunching at the end of the zero / low rate regulations.

The **FMP staff** shall:

- Provide DOM / SNOC the most realistic sector configuration / capacities **until the end of the tactical day** (and beyond, if necessary) and coordinate the application of the recovery measures.
- Any other relevant update of the situation.

The **DOM / SNOC** shall:

- Apply the recovery ATFM measures **until the bunching disappears** from each applied ATFM measure.
- Take into account, if necessary, airport(s) night curfew, and whenever possible, coordinate curfew extension with the relevant airport authority (coordination shall be done by NM AF during their working hours).
- Assist AOs with individual (or flow) alternative routeing solutions (in coordination with the NM AOLO and IFPS staff) in order to minimise the ATFM delays given by the recovery measures.
- Keep stakeholders up to date through the NOP Portal Headline News and AIM on any applied measure and prognosis on the Network situation and delays until the conclusion of the recovery phase.
- Keep the Helpdesk informed about delay situation.

6.2.3 Request diversion capabilities

In case a diversion situation occurs due to an event with a notable network impact, (in tactical or pre-tactical phase), the NMOC has a role to disseminate information by looking at airports' capability to accommodate diverting flights.

This procedure describes an enhanced communication process that has been made available via the **Airport Corner - "Airport Diversion Capabilities"** on the Network Operations Portal.

Note: The list of airports participating in the procedure is directly available in the Airport Corner when creating a request for diversion capabilities.

The main objective is to improve the way of collecting and sharing diversion capabilities from airports in a harmonized, structured, and traceable manner and enable real time information sharing with external stakeholders.

For support regarding the use of the tool please contact the Airport Information Management team (during office hours) at airport.corner@eurocontrol.int.

Procedure

In case a diversion situation arises or if a potential risk is identified,

the **NM OM/DOM** shall:

- Decide on initiating or not the "Airport Corner Diversion Capabilities" procedure.

If requested by NM OM/DOM to activate the procedure,

The **NM AF** (or NM DOM/SNOC outside NM AF working hours) shall:

- Determine the scope of airports suitable for diversions using the Airport Corner interface.
- Send a request electronically to the dedicated Diversion Capabilities Point(s) of Contact of the airport(s), if the airport(s) is/are part of the "Airport Corner Diversion Capabilities" provision process

- Once a reply from the airport(s) is received, decide if publication on the Headline News is required.
    - If yes, publish the dedicated link containing current diversion capabilities on the Headline News of the Network Operations Portal. (https://ext.eurocontrol.int/airport_corner_public/dc_requests/). Diversion capabilities information updates will automatically be reflected on this page.
- If an airport does not provide an update even after a reminder, check the "Diversion Capabilities Point of Contact" tab for dedicated contacts and contact the airport via phone.
- If the Airport Corner application is not available due to technical issues, collect diversion capabilities via phone.

Note:

If an airport is not part of the Airport Corner Diversion Capabilities provision process, the diversion capabilities shall be collected via the phone.

Note:

Once the request period has ended and the diversion situation has ended, archive the Diversion Capabilities request.

Note: back up options:

Option 1

If an airport does not provide an update even after sending a reminder, you can check the "Diversion Capabilities Point of Contact" tab for dedicated contacts and call.

Option 2:

Check the "Diversion Capabilities Point of Contact" tab for contacts. If the dedicated contact is not available the diversion capabilities should be collected via FMP.

Option 3:

If the Airport Corner application is not available, NM Airport Function (or NM DOM/SNOC outside NM AF working hours) shall collect diversion capabilities via the phone.

6.2.4 Priority Repositioning of Diverted Aircraft

When an aircraft is diverted due to an aerodrome closure, severe capacity constraints or any other reasons, AOs may suffer extreme crewing difficulties if the aircraft cannot re-position to their original destination.

The following procedure is designed to give these flights a priority back to their original destination in case they are delayed by one or several regulations.

These difficulties can be a critical loss of crew / aircraft without possible recovery the same day if the flight is penalised by heavy delays because of ATFCM measures.

At all times the NM DOM may identify in the ETFMS the diverted flights and where they have diverted to.

Procedure

Having received a request (via phone or e-Helpdesk) for assistance regarding a diverted flight,

the **NM tactical team** shall:

- Inform the requester that the flight will be considered for priority re-positioning.
- Transfer the request to the NM AOLO (or the NM DOM, in case the NM AOLO is not on duty).

The **NM AOLO (or the NM DOM)** shall:

- Confirm that the flight has indeed diverted and will be experiencing severe crewing difficulties.
- Pass all relevant information to the NM DOM and indicate earliest and latest possible times of departure.
- Log the call sign in DNP Editor.

The **NM DOM** shall:

- Check all relevant details to determine the severity of the situation together with information on the latest possible departure time.
- Coordinate with the relevant FMPs and execute agreed actions to ensure that all reasonable steps are taken to mitigate delay for the diverted flight to return to its original destination.
- Respect the acceptance rate agreed with the affected FMPs.
- Continue monitoring the number of diverted flights in the flight list and the impact on the Network.
- Update the NOP Headline News and issue AIMs concerning diversions and airport status, where necessary.

Upon completion of the steps above,

the **NM AOLO (or the NM DOM)** shall:

- Inform the AO concerned with feedback and any supplementary instructions whether or not any assistance was provided.

The **FMP staff** shall:

- Coordinate at local level any operational disruptions and severe capacity constraints possibly resulting in flight diversions.
- Identify the number of diverted flights.
- Ensure that information on diverted flights is correctly updated by sending ATC Flight Plan update messages (ACH, ARR).
- Evaluate the impact on local airport operations and coordinate significant changes with the NM tactical team (limited availability for diversions, delays in ground operations…).
- Coordinate with the NM tactical team to ensure that all reasonable steps are taken to mitigate delay for the diverted flight to return to its original destination.

- Continuously report to the NM tactical team concerning the severity of the situation and anticipate its evolution.

6.3 Industrial Actions

6.3.1 General Pre-Tactical Tasks for ANSP Industrial Action

After confirmation of strike action (NOTAM), coordination should be affected between the NMOC and the relevant FMP in order to ascertain the level of protection that is required both during and after the strike period. Legal procedures may govern ANSP strike action.

Note: In case of **French, Greek** or **Italian** industrial actions, there are **specific procedures** with details agreed with the respective ANSPs that **shall be followed**.

Procedure

The **FMP staff** shall:

- Communicate to the NM those details of the planned strike action that they have available.

Following information received on strike action,

the **NM pre-tactical team** shall:

- Verify that a strike NOTAM has been issued.
- Ascertain if a minimum service is to be provided.
- Coordinate with the affected FMPs on what protection is required and ascertain the associated acceptance rates.
- Apply regulations as agreed with the FMPs impacted by the industrial action. Note that regulations may need to be **auto-linked** and use FCM or a delay threshold value (3 hours).
- Assess the Network and investigate opportunities for alternative options for traffic to avoid the industrial action area: alternative routes that can be exceptionally open, RAD measures that can be modified (relaxed), use of EURO restrictions, ASM / ATFCM coordination… and agree as appropriate with concerned FMPs and AOs.
- Brief adjacent FMPs and coordinate an action plan to be prepared for probable on-loaded traffic.
- Participate in all relevant conferences.
- Include all details in the D-1 INP and Network Brief and all industrial action days.

The **NM OM** shall:

- Ensure that a news flash is issued in the NOP Portal Headline News with information regarding the strike, using the NOTAM as reference.
- Decide on the conferences and the participants required in order to have appropriate coordination.
- Ensure that the NOP Portal Headline News is updated with the conferences and their agendas.
- Chair all related conferences.

- Ensure that the NOP Portal Headline News is updated with a summary of the conferences (even publish the conference) and any other relevant information if deemed appropriate.
- Ensure that applicable telephone numbers are shared between:
  - NM manager on call, and
  - NMOC Operations Manager, and
  - The locally responsible manager.

6.3.2 French Industrial Action

A strike in France is consecutive to an advanced notice (5 days) given by one or several ATCOs or Civil Service Unions.

DSNA will provide information regarding the strike via the blog http://dsnado.canalblog.com. Additionally, DSNA may host teleconferences (in French) with AOs to inform airspace users of the ATFCM measures.

DSNA staff cannot be asked about their intention to take strike action until the official start time of their duty. According to the importance of the expected action, the French administration will decide prior to the strike one of the following possibilities:

With Minimum Service

Controllers are requisitioned.

A NOTAM is issued that may include flights restrictions on airports. The airports applying minimum service are:

LFPO / PG / RG / RS / LC / LL / ML / MN / BO / BD / BI / BL / SB / KJ / KB / KC / ST and overseas airports.

Procedure during pre-tactical operations

The **DSNA staff** shall:

- Issue a general NOTAM informing of the industrial action and describing the ATFM measures and minimum service.
- Coordinate with the NM pre-tactical team the sector configurations, sector opening scheme and regulations (with their associated information) that will provide the required minimum service during the strike.
- Coordinate with the NM pre-tactical team possible ATFCM measures after the strike to avoid bunching.
- Participate in the teleconferences hosted by the NM and provide information.

The **NM pre-tactical team** shall:

- Introduce in PREDICT the sector configurations, sector opening scheme and regulations for all French ACCs with the updated rates during and after the strike, as coordinated with DSNA. Note that regulations may need to be auto-linked.
- Prepare possible mitigation alternatives for AOs and coordinate with impacted FMPs as required, such as:
  - Rerouteing via DAAA and DTTC.
  - Alternative routes within GCCC.

- Rerouteing via T routes (T9, T213 and T16).
- Relaxation of RAD restrictions (e.g. Swiss RAD).

- Prepare information and updates for any possible teleconference.
- Reflect the ATFCM measures and possible mitigation measures in the INP and Network Brief.

Procedure during tactical operations

The **DSNA staff** shall:

- Monitor the application of the regulations and report to the NM tactical team on any possible modification to the regulations according to actual staffing.
- Request cancellation of ATFM measures on specific sectors regulations that are not required anymore.

The **NM tactical team** shall:

- Monitor the application of the regulations and perform any modifications as reported by DSNA in the ETFMS.

Without Minimum Service

If the level of anticipated strike action in different ACCs is not very high, the French administration may decide not to implement 'Minimum Service', in which case, the situation is less predictable.

There are no requisitioned controllers. The problem with this scenario is that the situation is liable to change at short notice during the strike period, as different sectors are affected by strike action.

Note: A specific ACC or a TOWER (for example LFPO) may decide of an industrial action (with an advanced notice of 5 days). It depends on the decision of the French administration whether a minimum service is implemented or not.

Procedure during pre-tactical operations

The **DSNA staff** shall:

- Issue a NOTAM informing of the industrial action.
- Coordinate with the NM pre-tactical team the sector configurations, sector opening scheme and regulations (with their associated information) for each impacted ACC. Each individual FMP decides the protection they will require.
- Coordinate with the NM pre-tactical team possible ATFCM measures after the strike to avoid bunching.

The NM pre-tactical team shall:

- Introduce in PREDICT the sector configurations, sector opening scheme and regulations for all French ACCs with the updated rates during and after the strike, as coordinated with DSNA. Note that regulations may need to be auto-linked.
- Prepare possible mitigation alternatives for AOs and coordinate with impacted FMPs as required, such as:
  - Rerouteing via DAAA and DTTC.
  - Alternative routes within GCCC.

- Rerouteing via T routes (T9, T213 and T16).
- Relaxation of RAD restrictions (e.g. Swiss RAD).

- Prepare information and updates for any possible teleconference.
- Reflect the ATFCM measures and possible mitigation measures in the INP and Network Brief.

Procedure during tactical operations

The **DSNA staff** shall:

- Monitor the application of the regulations and report to the NM tactical team on any possible modification to the regulations according to actual staffing.

The **NM tactical team** shall:

- Monitor the application of the regulations and perform any modifications as reported by DSNA in the ETFMS.

6.3.3 Greek Industrial Action

When an industrial action is decided in Greece by ATCOs' unions, an advanced notice of four working days must be given. In the meantime, the Civil Aviation may take legal action. If the court rules that the industrial action is illegal, it cannot take place.

Alternatively if the court accepts the action, a NOTAM is issued 24 hours before the industrial action, controllers are requisitioned and a pre-tactical plan is created.

Overflying traffic is not affected, only arrivals and departures to / from Greek aerodromes. Usually exclusion for some flights are applied and communicated in the NOTAM.

Examples of Greek industrial action:

a) 0900-1300;

b) 2201-2159R (R=next day).

Usually the industrial action is of **3, 4 or 24 hours duration**.

The purpose of the pre-tactical plan is to ensure that departures and arrivals are not in the airspace during the industrial action period (in this case 0900-1300 or 2201-2159R) by using the DEP, ARR and global airspace regulations.

Note: In Greece, unlike in Italian industrial actions, arriving traffic does **not** have 30 minutes grace to reach its destination after entering the airspace.

Note: Although, according to the NOTAM, only military flights participating in mil exercises are not affected by the industrial action, in most cases all mil flights are excluded after coordination with Athens FMP.

Procedure during pre-tactical operations

The **HCAA staff** shall:

- Issue a NOTAM to inform of the call for the strike 24 hours in advance.
- Promptly send the updated list of authorised flights to the NM (where appropriate).

- Coordinate with the NM pre-tactical team.

  The **NM pre-tactical team** shall:

- Apply the following in PREDICT:
  - **4 zero rate regulations** for **arrivals** to cover the starting period of the industrial action, application for the first 2 hours would be enough. Traffic volumes (TFVs) are **LGSTRAR1-4**, with reference locations 4 aerodrome sets, so the zero rate periods refer to landing time. Examples: a) 0900-1100; b) 2201-0000R or preferably 2201-0300R to avoid complications with overlapping of regulations starting the day before and linking with the global zero rate that continues to the end of the industrial action.
  - **13 zero rate regulations** for **departures** to cover the starting period of the industrial action, application for 2 hours would be enough. TFVs are **LGSTRDE1 / 2 / 3 / 4 / 6 / 7 / 8 / 9 / LGSTDE10 / 11 / 12 / 13 / 14** (reference locations are the adjacent ACCs LWSSCTA, LBSRCTA, LAAACTA, LIBBCTA, LMMMCTA, HECCCTA, LCCCCTA, LTAAWALL**,** LTBJTMA, LTAASALL, LTFETMA, LTBSTMA, LTFMTMA), so the zero rate periods refer to exiting the Greek airspace. Examples: a) 0900-1100; b) 2201-0000R or preferably 2201-0300R to avoid complications with overlapping of regulations starting the day before and linking with the global zero rate that continues to the end of the day.
  - **1 zero rate regulation** for the **global Greek airspace** to cover the period to the end of the industrial action, starting by overlapping the departure and arrival regulations for 1 hour. TFV is **LGALL** with reference location consisting of all Greek airspace including LGGGCTA, LGMDCTA, TMAs, aerodrome zones, military areas, etc. From this traffic volume the departures / arrivals from / to Greek military airports are excluded. Examples: a) 1000-1300; b) 2300-2159R or preferably 0100R-2159R to avoid complications with overlapping of regulations starting the day before.
  - The regulation for **LGALL** is the only one that shall be **auto-linked.**
  - Select '**XCD**' and '**Shift**' (for all strike regulations).
  - Select '**FCM**' (for all strike regulations).
- Prepare possible mitigation alternatives for AOs and coordinate with impacted FMPs as required.
- Reflect the ATFCM measures and possible mitigation measures in the INP and Network Brief. Include the following information in the INP:
  - As the NM is unable to restrict out-of-area flights with ATFCM measures, AOs must ensure these flights conform to published NOTAMs regarding airspace and airport non-availabilities.
  - Authorised flights (as in the NOTAM) will be suspended as well and they are requested to call Athens FMP in order to be de-suspended and excluded from the zero rate regulations.
  - LGGG / LGMD telephone contacts:
    FMP operations room: +30 210 9972654 / +30 210 9972693
    ACC Supervisor: +30 210 9972603
    ATFM-ASM division (office hours): +30 210 9972656 / +30 210 9972404 / +302109972405

Procedure during tactical operations

The **HCAA staff** shall:

- Monitor the flight list.
- Notify the NM tactical team any flight that shall be excluded.
- Coordinate with the NM tactical team the ATFCM measures before or after the industrial action period and any possible modification to the pre-tactical regulations.

The **NM tactical team** shall:

- Manually exclude from the regulations those flights communicated by HCAA staff.
- Coordinate with the HCAA staff the ATFCM measures before or after the industrial action period and any possible modification to the pre-tactical regulations. Note that Athens FMP requests not to apply pre-tactical ATFM measures before or after a 4-hour period industrial action, but tactical regulations may be required.
- Log any relevant feedback in DNP Editor.

6.3.4 Italian Industrial Action

The Italian law 146 / 1990 regulates ATC industrial actions.

Italian ATCOs' unions must notify ENAV of the call for action not later than 10 calendar days before the strike day. The final decision might be taken at D-1. NOTAM is issued by ENAV (notified to the NM).

Normally ATC strike periods do not exceed 4 hours.

During an ATC strike a minimum service is applied. ATS services must be granted to the flight categories listed below during the strike period:

- State, humanitarian, medical, emergency, military, SAR, essential services.
- All intercontinental arrivals (including those transiting via Italian domestic aerodromes). According to Italian law, departures from HE, OL and LL are considered as intercontinental.
- All domestic flights in progress at the time of the commencement of the strike.
- All flights over-flying the Italian airspace (all departure / destination non-Italian airports).
- The arrivals to Italian airports of International flights (departing from ECAC states) whose Estimated Time of Arrival (ETA) is not more than 30 minutes after the commencement of the strike as in FPL.
- All departures from Italian airports that are scheduled (EOBT) prior to the commencement of the strike and delayed for reasons beyond the control of the parties.
- All flights authorised as published in the list issued by ENAC (part of intercontinental departures, part of the domestic flights to / from Italian islands) including updates that might be received during the strike day.
- Any other flight as requested by the Italian Network Manager position in LIRR ACC.

The requests for flight authorisation shall be received by ENAC - the Italian Civil Aviation Authority - (sent by the AO) not later than 8 working days prior the

strike day. Although it is mandatory for AOs to respect the '8 days prior' rule, a few flights can be (in exceptional circumstances) authorised by ENAC after the deadline. ENAC will promptly send the updated list to ENAV that will forward it to the NM (by mail to the NM OM and the NM DOM) after changing the IATA call signs in ICAO code:

All FPLs of the flights not part of the categories listed above may be cancelled by AO or may be operated after the end of the strike period.

The role of the NM (NMOC) is to comply with the Italian law 146 / 1990 requirements and to ensure that all authorised flights listed above are regularly operated by AOs.

The contact points with ENAV and ENAC dealing with industrial actions are:

- The Italian Network Manager position in Rome ACC for ATFCM pre-tactical / tactical issues (via a VCS dedicated number in NMOC).
- ENAC strike coordinator office for issues related to the authorised flight list: +39 06 4459 6402

If the strike is confirmed by NOTAM, the NM will apply at D-1 a number of ATFM measures (zero rates), all applied with 'XCD / FCM: YES'. All zero rates have been agreed with ENAV and ENAC.

Note: By applying the 'XCD / FCM: YES' flights that are ATFM Exempted will be suspended as well.

The purpose of the zero rates is to close the Italian airspace (during the strike period) to all flights not being part of the categories to which ATS services must be granted (as in the list above).

The zero rates shall be applied pre-tactically and reflected in the ADP. The **TFV set LISTRIKE** contains all the TFVs prepared in advance that should normally be used for Italian industrial actions.

Due to the high workload involved, a fixed strike position in the FM area will be necessary to deal with all the exclusions and coordination during the strike day. ENAV may request the exclusion of flights during the day of operations. Note that the responsibility of the exclusions is entirely attributed to ENAC / ENAV.

A different general rule is applied in case of airport handling or other air transport personnel strike: The services must be granted to 20 per cent of all the flights planned during the strike period.

Procedure during pre-tactical operations

When a strike will be performed in an area of Italian responsibility,

the **ENAC (or ENAV**) staff shall:

- Notify to the NM the call for strike as soon as it is received from the unions.
- Promptly send the updated list of authorised flights to the NM OM and the NM DOM after changing the IATA call signs into ICAO code.

Upon reception of the call for strike,

the **NM OM** shall:

- Publish the information on the strike in NOP Headline News as soon as received, together with the ENAC note to AOs (as an attachment).

In case of a national strike

The **NM pre-tactical team** shall:

- Apply 14 zero rates:
  - **5 zero rates** based (as reference location) on A / D sets (category: departure), one for each Italian ACC except for LIRR that has two zero rates for departures because this kind of AD set may include only 10 aerodromes. TFVs are: **LIBBDST1, LIMMDST, LIPPDST1, LIRRDST1, and LIRRDST4**.
  - **5 zero rates** based on A / D sets (category: arrivals, 2 AD sets for LIRR). TFVs are: **LIBBAST1, LIMMAST, LIPPAST1, LIRRAST1 and LIRRAST2** (start time + 30 minutes).
  - **4 zero rates** based on airspaces TFVs for a national strike with intercontinental flights from Adjacent Areas (North Africa, Middle East) excluded. TFVs are: **LIBBSTR, LIMMSTR, LIPPSTR, LIRRSTR** (start time of these regulations at least 3 hours before the strike end time and auto link).
  - Select '**XCD**' and '**FCM**' (for all zero rate regulations).
  - **Auto-link** the regulations.
- Prepare possible mitigation alternatives for AOs and coordinate with impacted FMPs as required.
- Reflect the ATFCM measures and possible mitigation measures in the INP and Network Brief.

In **case of a local ACC strike** (one or more than one, but not all Italian ACCs),

the **NM pre-tactical team** shall:

- Apply the same zero rate regulations, but only those applicable for the striking ACCs.
- Prepare possible mitigation alternatives for AOs and coordinate with impacted FMPs as required.
- Reflect the ATFCM measures and possible mitigation measures in the INP and Network Brief.

In case of local aerodrome strikes (individual aerodromes or group of aerodromes),

The **NM pre-tactical team** shall:

- Apply zero rate regulations to the appropriate TFVs included in **LISTRIKE**.

In **case of non-ATC industrial actions** (e.g. airport handling or other air transport personnel strike),

the **ENAC staff** shall:

- Inform the NM in a timely manner on all planned industrial actions by providing a list of authorised flights.

Upon reception of such information,

the **NM OM** shall:

- Publish the information on the strike in the NOP Headline News as soon as received to inform all airspace users.

Procedure during tactical operations

During the strike day,

the **ENAV staff** shall:

- Detect inbound military flights originating from foreign aerodromes (except OOA).
- Detect all flights departing from Italian airports having an EOBT prior to the commencement of the strike that are delayed for reasons beyond the control of the parties (e.g. delayed by any other ATFM measure in force during the day of the strike or any other delay not depending from the AO). These flights shall be granted ATS services.
- Coordinate with the NM tactical team and promptly notify the previous flights and any other suitable flights, in order to exclude them from the zero rates by phone contacting the NM OM / NM DOM or the dedicated strike position (VCS), without the need of a fax or email confirmation.

The **NM tactical team** shall:

- Manually confirm and exclude all the authorised flights (as in the aforementioned list) from the zero rates.
- Together with ENAV, detect and exclude from the zero rates inbound military flights originating from foreign aerodromes (except the OOA) and exempted flights.
- Promptly exclude from the zero rates any other flights as notified by ENAV.
- It could happen that one (or more) ACC(s) or aerodrome(s) cancel the strike, in such case just cancel all zero rates related to the ACC(s) or aerodrome(s) no longer on strike.
- In the event of tactical modifications to the strike configuration (e.g. shifting of some of the time periods), check if the predefined TFVs in the **LISTRIKE** TFV set may be used.
- Provide feedback in DNP Editor.

6.4 Severe Unavailability of Brussels ACC / APP (Internal Procedure)

This procedure describes the actions to be taken in case of severe unavailability of the Brussels ACC / APP and details the temporary solutions to be used during that unavailability, which enable service continuity at EBCI, EBLG and / or EBOS.

The initial scope of the business continuity at EBCI, EBLG and / or EBOS is to ensure a limited service level which can only be activated when these airports can operate in an isolated mode, i.e. during the outage of ATM system at Brussels ACC and APP, relevant local surveillance and communication systems are still operational at EBCI, EBLG and / or EBOS.

In order to enable departures and arrivals for these airports, additional new flows are created per airport. This traffic will be controlled by the local ATC.

6.4.1 Phase 1 – 'Clear Sky'

Disruptions in case of Brussels ACC / APP unavailability are managed through three phases:

- **Phase 1 – 'Clear Sky'** - set of measures and actions applied to restrict operations within the impacted airspace;
- **Phase 2 – 'Business Continuity for EBCI, EBLG and / or EBOS'** - enables limited operations to/from EBCI, EBLG and / or EBOS, on the FMP's request;
- **Phase 3 – 'Recovery'** - transition until normal operations are established.

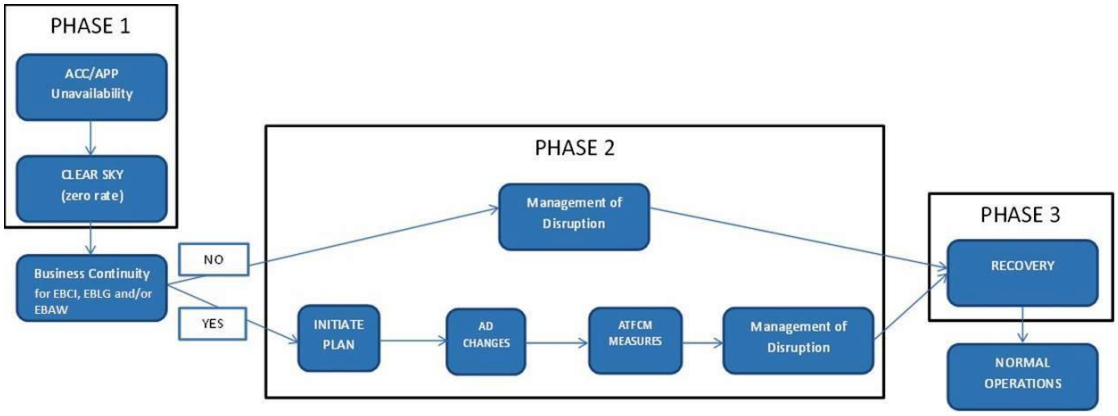


Figure 2 - Brussels ACC/APP unavailability - phases

Procedure

In the event of non-availability of Brussels ACC / APP the NM will assess the Network impact of the non-availability based on the information received from the FMP and then take appropriate predefined actions.

The decision for implementation and ownership of the ATFM regulation lies with the FMP.

The **ACC Supervisor** shall:

- Issue a NOTAM informing of Brussels ACC / APP unavailability.
- The **FMP staff** shall:
- Coordinate with the relevant CASA position (manned by NOC) the need of a zero-rate regulation and provide the traffic volume(s) and the regulation reason, based on local contingency plans / procedures. The regulation should initially not exceed 2 hours duration, unless other reasons require a different duration.
- Inform DOM / SNOC on published NOTAM (with the NOTAM reference number).
- Contact the DOM / SNOC **every 30 minutes** to update the ATFM regulation, if necessary.
- Provide the expected end time of the disruption, as available.

Following the first call from the FMP,

the **NOC in the CASA position** shall:

- Apply the ATFM measure(s) not exceeding the agreed period.
  - Introduce the agreed values: **zero rate, time of applicability, regulation reason**.

- Select '**XCD**' and '**Shift'** and add 'XCD' as ANM remark (and NOTAM number as available).

- **Auto-link the regulation**.
- Set '**Chaotic situation**' in the confirmation window.

  Note: Setting 'Chaotic situation' will automatically set the 'OBT AFTER' to 30 minutes before the current clock time and de-select 'Protect A-DPI flights' in order to capture as much traffic as possible. Depending on the nature of disruption, the OBT AFTER may be further adjusted – check the flight list and coordinate / evaluate with the FMP if necessary.

- **Activate and publish the regulation**.
- Handover to the DOM / SNOC on duty.

The **DOM / SNOC** shall then**:**

- Take-over any further coordination and action agreed with the FMP and open a dedicated disruption position if necessary.
- Coordinate the diversion management in order to accommodate rerouted flights.
- Inform adjacent ANSPs on the Network impact of the bunching.
- Inform stakeholders via the NOP Portal Headline News and AIM of:
  - any **ATFCM measures applied**;
  - the reason of the disruption as communicated by the FMP to Head NOS or OM **(avoid the word ''closure" but rather use airspace or aerodrome unavailability)**;
  - information on **airports capability for diversion management**;
  - **information for long haul flights (see the note below);**
  - the **prognosis for the coming hours** (Even if there is no info, there should be communication that 'news is expected in 'x' minutes' or 'no news available at this stage').
- Keep the Helpdesk informed about the delay situation.

  Note: If required (depending on the nature of disruption), advise long-haul flights (via Headline News or AIM) not captured by the initial regulation, that landing at a destination is not granted as the end of the disruption is unknown, so inviting them to fuel for the alternate or the nearest available airport.

- Inform the Aircraft Operators Liaison Cell (AOLC) as soon as the disruption is notified to the NMOC. The AOLC will provide AOs info on the disruption, if delegated by the Head of NOS or by the OM.

If **no contact is received within 30 minutes** after the initial application of the ATFCM regulation,

the **DOM / SNOC** shall:

- Call the FMP asking whether to extend the regulation by one hour or any other agreed period, considering the end of the disruption expected time.

  In case of long-term ACC / APP unavailability where the end time is not likely to come forward (it can only be extended),

- Consider to coordinate with the FMP, the AD NOSup and the IFPS Supervisor, the application of a Global EU Restriction (EUEBCON0R) after the initial 'zero rate' regulation in order to invalidate FPLs.

When a Global EU Restriction is applied,

- Synchronise the Global EU restriction (EUEBCON0R) with the environmental database to ensure it will be applied to FPLs already inside the ETFMS.

  If after the completion of the flight plan revalidation process (which normally takes 30 minutes to be completed) some flight plans are not suspended by the revalidation process,

- Manually suspend all flights not captured by the IFPS revalidation process (in the flight list: Options / Configure… / IFPS analysis to display flights violating the EU restrictions) and ensure that the suspension message will contain the following text: 'SUSPENDED DUE TO SEVERE UNAVAILABILITY OF BRUSSELS ACC / APP'.
- Keep AOLO informed on suspended flights.

  More details are available in the ATFCM Operations Manual - **Management of EU restrictions**.

6.4.2 Phase 2 – 'Business continuity for EBCI, EBLG and / or EBOS'

This chapter describes the general procedure to be applied in case of 'Business Continuity for EBCI, EBLG and / or EBOS' plan activation, regardless of the selected scenario. More details on the TFV, EU and RAD restrictions considered may be found in Section **Environment modifications**.

By the 'Business Continuity for EBCI, EBLG and / or EBOS' plan, seven scenarios are foreseen and defined based on those airports able to operate in isolated mode:

- Scenario 1 - Service continuity at EBCI and EBLG, but not at EBOS;
- Scenario 2 - Service continuity at EBCI, but not at EBLG and EBOS;
- Scenario 3 - Service continuity at EBLG, but not at EBCI and EBOS;
- Scenario 4 - Service continuity at EBCI, EBLG and EBOS;
- Scenario 5 - Service continuity at EBLG and EBOS, but not at EBCI;
- Scenario 6 - Service continuity at EBCI and EBOS, but not at EBLG;
- Scenario 7 - Service continuity at EBOS, but not at EBCI and EBLG;

Two inputs in the Phase 2 are possible:

- Case 1- Global EU restriction has already replaced ATFM zero rate regulation;
- Case 2- ATFM zero rate regulation is still active.

Note: No local, training, calibration flights are allowed until normal operations are re-established.

Procedure

The **ACC Supervisor** shall:

- Issue renewed NOTAM / update NOTAM on Brussels ACC / APP unavailability and on for EBCI, EBLG and / or EBOS limited operations.

The **FMP staff** shall:

- Coordinate and initiate with the DOM / SNOC the 'Business Continuity for EBCI, EBLG and / or EBOS' plan and provide the start time and expected end time of the plan as available.

- Inform DOM / SNOC on the scenario selected.
- Inform DOM / SNOC the regulation reason.
- Inform DOM / SNOC on renewed NOTAM / update NOTAM (with the NOTAM reference number).

The **DOM / SNOC** shall:

- Inform AD NOSup (during the night shift the IFPS Supervisor) and instruct the NOC in CASA position to execute the 'Business Continuity for EBCI, EBLG and / or EBOS' plan, and inform them on the selected scenario (provide regulation reason remark to NOC).
- Coordinate with the NM AD NOSup (during the night shift the IFPS Supervisor) implementation of the selected scenario AD modifications (enable EU Restrictions and disable RAD Restrictions listed in section **Environment modifications**).
- Inform Aircraft Operators Liaison Cell (AOLC) about scenario activation;
- Inform stakeholders via the NOP Portal Headline News and AIM of:
  - **implemented AD modifications;**
  - **ATFCM measures applied;**
  - **information for long haul flights;**
  - **the prognosis for the coming hours;**
  - **usable flight planning routes for the scenario that will be used.**

The AD NOSup (the IFPS Supervisor during the night shift) shall either:

in Case 1. Global EU restriction has already replaced ATFM zero rate regulation

- Implement selected contingency scenario for agreed period.
- Adjust the end time of previously implemented Global EU restriction (EUEBCON0R) in order to correspond to a start time of contingency scenario.
- Inform DOM about the completion of the action.

Or,

in Case 2. ATFCM zero rate regulation is still active

  - Implement selected contingency scenario for agreed period.
  - Implement Global EU restriction (EUEBCON0R) from present time until start time of contingency scenario.
- Inform DOM about the completion of the action.

Then, The **DOM / SNOC** shall:

- Synchronise the Global EU restriction (EUEBCON0R) with the environmental database to ensure it will be applied to FPLs already inside the ETFMS.
- Adjust ATFCM zero rate regulation end time to at least 30 to 60 minutes after the Global EU restriction start time.

If after the completion of the flight plan revalidation process (which normally takes 30 minutes to be completed) some flight plans are not suspended by the revalidation process,

- Manually suspend all flights not captured by the IFPS revalidation process (in the flight list: Options / Configure… / IFPS analysis to display flights violating the EU restrictions) and ensure that the suspension message will contain the

following text: 'SUSPENDED DUE TO SEVERE UNAVAILABILITY OF BRUSSELS ACC / APP'.

- When completed, cancel the ATFM zero rate regulation.
- Keep AOLO informed on suspended flights.

In both Case 1 and Case 2, the **NOC in CASA position**, after Global EU Restrictions and upon DOM / SNOC request, shall:

- Apply ATFM measures to the TFVs defined in the applicable scenario (section **Environment modifications**):
  - Introduce the agreed values: **rate (global 6 movements per hour for each airport**), time of applicability (e.g. 4-5 hours) and regulation reason;
  - The window width shall be 10 minutes to achieve maximum adherence to the rate;
  - **Auto-link, activate and publish** the regulation.

The **AOLC,** upon DOM / SNOC request, shall:

- Inform AOs flying to / from EBCI, EBLG and / or EBOS on temporary routes modification and provide additional details if required.

If during the period of 'Business Continuity for EBCI, EBLG and / or EBOS' application, FMP requests change of active scenario, then:

The **FMP staff** shall:

- Inform the DOM / SNOC about the change in scenario selection and specify the new scenario to be activated.

The **DOM / SNOC** shall:

- Coordinate with the NM AD NOSup (during the night shift with IFPS Supervisor) and the NOC in the CASA position modification of the scenario in use. Procedure for the application of new scenario is the same as above.

The IFPS Supervisor shall:

- Monitor and manage any IFPS errors that might occur, during selected scenario execution.

6.4.3 Phase 3 – 'Recovery'

Procedure

As soon as the ATM system has been fully recovered, the FMP shall contact DOM/SNOC and request the suppression of the "Business Continuity for EBCI, EBLG and / or EBOS" plan.

The **FMP staff** shall:

- Inform DOM / SNOC about the suppression of the "Business Continuity for EBCI, EBLG and / or EBOS" plan, providing a start time of the Recovery phase execution.
- Provide DOM / SNOC the most realistic sector configuration / capacities **until the end of the tactical day** (and beyond, if necessary) and coordinate the application of the recovery measures.

- Any other relevant update of the situation.

The **DOM / SNOC** shall:

Case 1 - If recovery time starts at the end time of the contingency scenario:

- Apply the recovery ATFM measures until the bunching disappears.
- Adjust rate and period in EBCI, EBLG and / or EBOS if needed.

Case 2 - If recovery time does not start at the end time of the contingency scenario:

- Coordinate with the NM AD NOSup (during the night shift with IFPS Supervisor) and the NOC the execution of the recovery phase (disable contingency scenario IFPS measures and go back to nominal situation).
- Apply the recovery ATFM measures until the bunching disappears.
- Adjust rate and period in EBCI, EBLG and / or EBOS if needed.
- Monitor ATFM situation.

Additionally, in both Case 1 and Case 2,

the **DOM / SNOC** shall:

- Assist AOs with individual (or flow) alternative routeing solutions (in coordination with the AOLO and IFPS staff) in order to minimise the ATFM delays given by the recovery measures.
- Take into account, if necessary, airport(s) night curfew, and whenever possible, coordinate curfew extension with the relevant airport authority.
- Keep stakeholders up to date through the NOP Portal Headline News and AIM on any applied measure and prognosis on the Network situation and delays until the conclusion of the recovery phase.
- Keep the FM Helpdesk informed about delay situation.

In Case 2, on DOM/SNOC request,

the **AD NOSup (the IFPS Supervisor during the night shift)** shall:

- Disable all EU Restrictions that were activated in the Phase 2 (deactivation time is the recovery phase start time).
- Enable all RAD Restrictions that were deactivated in the Phase 2 (activation time is the recovery phase start time).

Note: Priority repositioning of diverted aircraft procedure will be executed as defined in the ATFCM Operations Manual.

6.4.4 Environmental Modifications

Depending on the selected scenario, NMOC staff is required to perform different actions by which the EBCI, EBLG and / or EBOS service continuity will be secured in case of the unavailability of the Brussels ACC / APP.

Global EU Restrictions capturing and rejecting all flights with intentions to fly to/from/through EBBU: **EUEBCON0R**

Currently, seven scenarios are available:

A. Scenario 1 - Service continuity at EBCI and EBLG, but not at EBOS - Traffic will operate between EBCI and DSNA (LFQQ Approach), as well as between EBLG and DFS (Düsseldorf DKA).

- EU Restriction to be activated:
  - EUEBCON1R;
  - EUEBCON2A;
  - EUEBCON2B;
  - EUEBCON3A;
  - EUEBCON4A;
  - EUEBCON5A;
  - EUEBCON6A;
  - EUEBCON6B;
  - EUEBCON7A;
  - EUEBCON8A;
  - EUEBCON8B;
  - EUEBCON8C;
  - EUEBCON9A;
  - EUEBCON10A;
  - EUEBLGCO1D;
  - EUEBLGCO1A;
  - EUEBLGCO1P;
  - EUEBLGCO2P;
  - EUEBCICO1D;
  - EUEBCICO1A;
  - EUEBCICO1P.
  - EBCI CIV3A STAR: MNM level will be lowered to FL070 during the Contingency period.
- RAD Restrictions to be deactivated:
  - EDYX1035A;
  - ED2255A;
  - LF2518A;
  - LFEB1001A;
  - LFEB1001B;
  - LFEB1002A;
  - EB2092A;
  - EUKENUM1A;
  - EUIDOVI1A.
- TFVs: EBLG and EBCI

B. Scenario 2 - Service continuity at EBCI, but not at EBLG and EBOS - Traffic will operate between EBCI and DSNA (LFQQ Approach).

- EU restriction to be activated:
  - EUEBCON2R;
  - EUEBCON5A;
  - EUEBCON6A;
  - EUEBCON6B;
  - EUEBCON7A;
  - EUEBCICO1D;
  - EUEBCICO1A;
  - EUEBCICO1P.
  - EBCI CIV3A STAR: MNM level will be lowered to FL070 during the Contingency period.

- RAD Restrictions to be deactivated:
  - LF2518A;
  - LFEB1001A;
  - LFEB1001B;
  - LFEB1002A;
  - EB2092A.
- TFVs: EBCI

C. Scenario 3 - Service continuity at EBLG, but not at EBCI and EBOS - Traffic will operate between EBLG and DFS (Düsseldorf DKA).

- EU Restriction to be activated:
  - EUEBCON3R;
  - EUEBCON2A;
  - EUEBCON2B;
  - EUEBCON3A;
  - EUEBCON4A;
  - EUEBCON8A;
  - EUEBCON8B;
  - EUEBCON8C;
  - EUEBCON9A;
  - EUEBCON10A;
  - EUEBLGCO1D;
  - EUEBLGCO1A;
  - EUEBLGCO1P;
  - EUEBLGCO2P.
- RAD Restrictions to be deactivated:
  - EDYX1035A;
  - ED2255A;
  - EUKENUM1A;
  - EUIDOVI1A.
- TFVs: EBLG

D. Scenario 4 - Service continuity at EBCI, EBLG and EBOS - Traffic will operate between EBCI and DSNA (LFQQ Approach), between EBLG and DFS (Düsseldorf DKA) as well as between EBOS and LTC (Swanwick).

- EU Restriction to be activated:
  - EUEBCON4R;
  - EUEBCON2A;
  - EUEBCON2B;
  - EUEBCON3A;
  - EUEBCON4A;
  - EUEBCON5A;
  - EUEBCON6A;
  - EUEBCON6B;
  - EUEBCON7A;
  - EUEBCON8A;
  - EUEBCON8B;
  - EUEBCON8C;
  - EUEBCON9A;
  - EUEBCON10A;
  - EUEBLGCO1D;

- EUEBLGCO1A;
- EUEBLGCO1P;
- EUEBLGCO2P;
- EUEBCICO1D;
- EUEBCICO1A;
- EUEBCICO1P.
- EBCI CIV3A STAR: MNM level will be lowered to FL070 during the Contingency period.
- EUEBOSCO1D;
- EUEBOSCO1A.

- RAD Restrictions to be deactivated:
- EDYX1035A;
- ED2255A;
- LF2518A;
- LFEB1001A;
- LFEB1001B;
- LFEB1002A;
- EB2092A;
- EUKENUM1A;
- EUIDOVI1A.

- TFVs: EBCI, EBLG and EBOS

E. Scenario 5 - Service continuity at EBLG and EBOS, but not at EBCI - Traffic will operate between EBLG and DFS (Düsseldorf DKA) as well as between EBOS and LTC (Swanwick).

- EU Restriction to be activated:
- EUEBCON5R;
- EUEBCON2A;
- EUEBCON2B;
- EUEBCON3A;
- EUEBCON4A;
- EUEBCON8A;
- EUEBCON8B;
- EUEBCON8C;
- EUEBCON9A;
- EUEBCON10A;
- EUEBLGCO1D;
- EUEBLGCO1A;
- EUEBLGCO1P;
- EUEBLGCO2P;
- EUEBOSCO1D;
- EUEBOSCO1A.

- RAD Restrictions to be deactivated:
- EDYX1035A;
- ED2255A;
- EUKENUM1A;
- EUIDOVI1A.

- TFVs: EBLG and EBOS

F. Scenario 6 - Service continuity at EBCI and EBOS, but not at EBLG - Traffic will operate between EBCI and DSNA (LFQQ Approach), as well as between EBOS and LTC (Swanwick).

- EU Restriction to be activated:

- EUEBCON6R;
- EUEBCON5A;
- EUEBCON6A;
- EUEBCON6B;
- EUEBCON7A;
- EUEBCICO1D;
- EUEBCICO1A;
- EUEBCICO1P.
- EBCI CIV3A STAR: MNM level will be lowered to FL070 during the Contingency period.
- EUEBOSCO1D;
- EUEBOSCO1A.

- RAD Restrictions to be deactivated:
- LF2518A;
- LFEB1001A;
- LFEB1001B;
- LFEB1002A;
- EB2092A.

- TFVs: EBCI and EBOS

G. Scenario 7 - Service continuity at EBOS, but not at EBCI and EBLG - Traffic will operate between EBOS and LTC (Swanwick).

- EU Restriction to be activated:
- EUEBCON7R;
- EUEBOSCO1D;
- EUEBOSCO1A.

- RAD Restrictions to be deactivated:
- NIL

- TFVs: EBOS

7 POST OPERATIONS PHASE

7.1 General

The post operational phase of operations may begin as an event takes place, but is generally considered to commence on D+1 and continues for as long as needed to ensure completion of analysis.

The post operations phase in NOS and the NMOC is managed by the Operations Analysis (OPA) Service team, which provides the following:

- Operational support to the NMOC.
- Lessons learning following foreseen and unforeseen events, including follow-up of agreed actions to ensure implementation.
- Monitoring of the execution of the ADP in Tactical Operations via a rolling monitoring of the INP. This includes a daily briefing between the DOM and Operations Analysis (OPA) Service to discuss the Tactical situation and which also addresses any capacity constraints identified at D-1 together with any mitigation actions applied during Tactical Operations.
- Production of regular and ad-hoc reports to Agency staff and stakeholders on the performance of the European ATM Network, including ATFM delay, number of ATFM restrictions and mitigation measures taken to reduce the impact of hotspots.
- In depth analysis of hotspots and constraints in the Network to assist in resolution.
- Monitoring and analysis of day to day actions and procedures to ensure best practices are compatible with performance targets.
- Providing an overview of all incident reporting and analysis, complaints and ad-hoc enquiries to identify trends.
- Assist with the analysis of requests submitted under the Post Operations Performance Adjustment Process to PFR/OAR.
- Operational input to PFR / OAR for monitoring and reporting.

7.2 Provision of Information

The Operations Analysis (OPA) Service will obtain statistical information from the NM Data Warehouse (DWH) but requires further feedback from relevant stakeholders and any other reliable information sources such as DNP Editor to enable full analysis.

Procedure

The **NM operational staff** shall:

- Provide feedback on operational occurrences or issues via DNP Editor.
- The feedback should include:
  - A timeline of the event.
  - Actions taken and the reasons why. This should include details of actions that were proposed but unable to be implemented. Additional information relating to the situation at the time of the occurrence (e.g. coordination between ATS Unit and NMOC, professional opinion of any other relevant information) may also be included.

- It is not necessary to give delay figures or details of regulation application times or rates as these are available to post operations via the Network Manager Interactive Reporting (NMIR).
- A signature (3 letter identifier) to allow follow-up action.

The **NM OM** shall:

- Produce a daily report giving basic details of events in the Network that had an impact on performance.

In the case of the missing or incomplete information as detailed in the procedure above, the Operations Analysis (OPA) Service shall address follow-up questions to the relevant NMOC staff based on the three letter identifier associated to the measures. Any subsequent information on the occurrence shall be added to DNP Editor by Operations Analysis (OPA) Service.

Feedback via email from FMP or AO staff is also acceptable using the post operations functional address. Personal email accounts should not normally be used. The Operations Analysis (OPA) Service may instigate contact to the FMP or AO concerned for supporting information to support any analysis of the situation.

Unsolicited requests for feedback and analysis by FMPs or AOs are welcome and should be made using the post operations functional address.

7.3 Lessons Learnt

The Operations Analysis (OPA) Service is responsible for analysing operational events where a significant Network impact occurred.

During the post operational phase the Operations Analysis (OPA) Service will collate all information relevant for a particular event with the emphasis on the operational feedback from both internal and external stakeholders.

If necessary a lessons learnt debriefing will be held to aid understanding of particularly complex events with a wide range of concerned participants.

Procedure

The **NM** Operations Analysis (OPA) Service team shall:

- Produce and publish a report containing:
  - A timeline of relevant events.
  - Relevant statistics including but not limited to: delay, flight efficiency impact and flight cancellations.
  - Issues arising / lessons learnt.
  - Recommendations and specific actions to resolve outstanding issues.

The actions shall give a clear requirement, specific accountability to an individual or function and a date for expected completion.

Lessons learnt and associated actions are recorded by the Operations Analysis (OPA) Service and reviewed in an annual meeting with the Head/Operations Analysis Service and senior NM management to discuss trends in line with the

lessons learnt procedure: \NOM\Network Operations Services\NOS Post Operations.

7.4 Incident Overview

Whilst the Operations Analysis (OPA) Service is not responsible for incident investigation there is a responsibility for maintaining an oversight of all incidents and customer complaints. NOM\NOS\DOM shall produce annual statistics and data detailing the number and nature of incidents investigated over the previous year.

The Operations Analysis (OPA) Service will use this data to identify trends and in collaboration with senior management implement corrective actions.

7.5 Support to PFR

The Operations Analysis (OPA) Service will provide operational input to reports produced by Performance, Forecasting and Reporting (PFR) including but not limited to the monthly and annual operational reports.

The Operations Analysis (OPA) Service shall also provide support in the analysis of requests submitted as part of the Post Operations Performance Adjustment Process.

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8 COMMUNICATION / CDM PROCESSES

8.1 Incident Reporting

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

8.2 Ad-Hoc Internal Tactical Briefings on ATFCM Events

The NMOC may hold internal tactical briefings addressing specific situations as considered necessary. These briefings are intended to brief internal staff about the current state of the Network or some of its details.

When such an ad-hoc briefing takes place it may be necessary to use teleconference facilities in case off site internal staff need to be invited.

Procedure

The **NM DOM** shall:

- Decide whether to have a tactical ad-hoc briefing or not.
- Make sure relevant participants are available and invite them.
- Request the NM NOO to set the teleconference facility if required.
- Initiate and chair the briefing.

The **NM NOO** shall:

- Assist the NM DOM if required.

8.3 Teleconferences

The NM may hold teleconferences with relevant stakeholders where circumstances are deemed to require it, e.g. to distribute information regarding industrial actions. In such cases the NM will inform of the access means to the teleconference and, where possible, release an agenda in advance. This information is normally made available via the NOP Portal Headline News and AIM. A recording of the teleconference may also be made available on the NOP Portal afterwards.

Teleconferences may be requested by ANSPs or AOs to the OM (via email or phone) on any subject.

In case a teleconference is requested, the following procedure shall be followed on D-1.

Procedure

The **NM OM** shall:

- Ensure that the conference is prepared and the relevant partners invited.
- Initiate and chair the conference.

The **NM pre-tactical team** shall:

- Accept or invite on-line interaction by the external clients that would be of anticipated value for the expected Network situation.
- Check that the WebEx application for pre-tactical is functional and correctly set up in adequate time.
- Ensure that the briefing includes information, explanation and explanatory graphics where possible as per INP.
- Ensure that all the necessary documents / graphics… are set up in WebEx prior to the conference delivery time.
- Deliver the briefing when prompted by the conference leader.
- Following the conference incorporate a link to the recording on the NOP Portal.

The **NM MET Specialist** shall:

- Assess the forecast weather for the proposed teleconference, and when necessary, provide additional support slides.
- Give a brief overview of the weather forecast for the event and its potential impacts during the teleconference.

The **FMP staff** invited to the conference should:

- Attend and participate in the conference. Uninvited FMP staff wishing to participate may do so.

The **NM tactical team** shall:

- Attend the conference and may provide an update on the expected and current Network situation.

Note: For more information on teleconferences where sensitive information could be shared, see the relevant chapter of the NMOC Support Manual.

8.3.1 Attendance at FAA National System Review Conference (NSR)

The Federal Aviation Administration (FAA) National Daily System Review web conference is hosted by the FAA's New York Regional Office. This conference involves weather briefings, ATFCM measures, briefing of yesterday's North Atlantic operations, expected North Atlantic issues for today and tomorrow, any important issues from the East Coast ACCs (Boston, New York, Washington, Cleveland, Philadelphia,) AOs and sometimes individual airports.

The UK FMP also attends to give daily feedback and briefing on North Atlantic tracks and issues affecting their area of responsibility.

The NM (Tactical and/or Pre-tactical team) will attend the conference when a situation requires coordination with the FAA. Attendance at the conference

increases communication between the NM and the FAA, and increases awareness of the current and future status of operations on the East coast of the United States. It is a source of information on any issues affecting the NAT for the next few days, and also a forum to discuss matters with NAT operators where necessary.

From the FAA's point of view, it is a chance for them to ask any pertinent questions on operations in Europe, both for traffic about to depart eastbound and for westbound departures the following day.

For the AOs it is an opportunity to address any matters which are affecting them either on arrival early morning in Europe or on departure.

Procedure

From Monday to Friday at 15:00 UTC in winter time (14:00 UTC in summer time) and depending on current events,

the **NM (tactical and/or pre-tactical team)** may:

- Attend the FAA's National Daily System Review conference
- When prompted by the presenter, report only pertinent information relating to North Atlantic operations or affecting the North Atlantic flow (i.e. major weather systems, industrial action etc. and how it will affect the North Atlantic flow)
- Pass on relevant information within the European Network.

8.4 NAT CDM Process

A Collaborative Decision Making (CDM) process has been designed to improve efficiency, reduce delays and provide greater flexibility and predictability for North Atlantic traffic operations.

The ‘East / West NAT tracks and loading’ should give the NM DOM and concerned FMPs a clear indication of where any potential problems may arise. This information should facilitate mitigation of possible overloads.

A teleconference hosted by NAVCanada will be set every day at 23:00 UTC regarding the NAT Eastbound flow into Europe. Issues concerning the Westbound traffic will be raised by the NMOC and concerned FMPs as relevant.

The ‘East / West NAT tracks and loading’ gives an indication of preferred routes and the demand on each track based upon the filed flight plan data.

Procedure

Upon reception of the predicted tracks,

the **Shanwick Operations Supervisor (OS)** shall:

- Send the predicted tracks by fax to the NMOC and European FMPs concerned.

Upon receipt of these tracks,

the **NM DOM** shall:

- Confirm reception of the predicted tracks sent by Shanwick OS.

- Revise the ATFCM daily plan (D-1) and any additional information handed over from the late shift NM DOM prior to attending the NAT teleconference. The aim is to share relevant information affecting the Network.

  Those **FMPs concerned** and the **NM DOM** shall:

- Attend the NAT teleconference at 23:00 UTC, where the loading of the tracks will be communicated as well as any other significant issues affecting the Eastbound flow (departure delays, significant weather, possible cancellations…).

  Following the teleconference,

  the **NM DOM** shall:

- Update the NOP Headline News with any significant information concerning the Eastbound flow (such as departure delays).
- After having studied received data, coordinate with FMPs and / or AOs concerned to improve the efficiency of the Network to:
  - Reduce overloads in certain sectors.
  - Consider diversions and re-positioning of flights due to weather.
  - Any other appropriate actions.

8.5 Information and Messages Produced by the NMOC

8.5.1 Updating the NOP Portal Headline News

During tactical operations the NOP Portal Headline News shall be used to:

- Inform Network users about significant events affecting the Network (e.g.: major capacity shortfall, strikes, volcanic ash, etc.).
- Inform Network users about actions taken as a result of the events affecting the Network and give appropriate advice to minimise the impact.
- Reduce unnecessary queries to the e-Helpdesk through information sharing.

Internal NM issues must not be communicated through the NOP Portal Headline News. The NM shall communicate only those events that give added value in a timely manner. Previously-issued news should be found under the tab ‘Archive News’ if correctly stored.

NM DOMs are responsible to ensure that all NM tactical team members are competent to input text in the Network Headline News.

Procedure

During the day of operations,

all NM tactical team shall:

- Provide updates on the situation of the Network to the **NM DOM/SNOC.**

The **NM DOM/SNOC (or NOC on night shift)** shall:

- Request updates on the situation from all other NM tactical team members.
- Identify which events require publishing according to the use defined above.
- Ensure appropriate information is prepared for those events.
- Check the validity period of the Headlines News.

- Approve content and ensure publication in the Headline News of the NOP Portal.

  For sensitive issues the NM OM shall be involved during the preparation of the text.

8.5.2 Maintaining Pre-Tactical Information on the NOP Portal

The NM pre-tactical team is responsible for some of the information presented in the NOP Portal to externals. This information usually relates to pre-tactical planning and scenario data.

All data in the NOP Portal needs to be correlated between all sources to avoid conflicting or outdated information from multiple sources on the same subject.

Procedure

The **NM pre-tactical** team shall:

- Ensure that the following data is correctly loaded on to the NOP Portal and upload it where needed:
  - D-1 plan.
  - Latest agreed axis plans and statistics.
  - Special events (such as the agreed and correct scenario list with correct descriptions and graphics).
- Ensure that the data on the NOP Portal is updated and no outdated or misleading information remains in the Portal.

8.5.3 ATFCM Information Message (AIM)

An AIM may be used to send information to NM customers about NMOC daily operations such as possible disruptions.

AIMs may be accessed via CHMI interfaces and the NOP Portal.

8.5.3.1 Sending AIMs

The reason for sending an AIM is to inform the Network about possible disruptions such as airfields with weather issues, where to expect delays, available alternate routes, but also to bring attention to information of a more general nature such as RAD amendments, ETFMS / IFPS maintenance outages or important NOTAMs.

Several AIM templates are available in the AIM application under the ‘Templates’ tab.

Procedure during pre-tactical operations

Where an AIM is to be sent,

the **NM pre-tactical team** shall:

- Prepare the text or ask support to prepare the text if needed.

- Specify a validity period (avoid UFN as much as possible).
- Release the AIM.

Procedure during tactical operations

Where **FMP staff** require an AIM to be sent, they shall:

- Contact the NM tactical team and provide the associated information.

Upon receipt of such a request,

the **NM tactical team** shall:

- Prepare the text or ask support to prepare the text if needed.
- Specify a validity period (avoid UFN as much as possible).
- Inform the NM DOM.
- Release the AIM.

Where the **NM OM** or **NM DOM** decides to send an AIM they shall:

- Prepare the text or ask for support to prepare the text if needed.
- Check and correct the draft accordingly.
- Specify a validity period (avoid UFN as much as possible).
- Release the AIM.

Where the proposal comes from **other NM staff**, those staff shall:

- Prepare the text or ask support to prepare the text if needed.
- Specify validity period (avoid UFN as much as possible).
- Send it to the NM OM and the NM DOM to be reviewed and released.

8.5.4 ATFCM Notification Message (ANM)

The ATFCM Notification Message (ANM) is a message issued by the NM to inform all concerned of the measures in the ATFCM Daily Plan (ADP). The ADP is finalised the day before the day of operations and released around 17:00 UTC in winter time (16:00 UTC in summer time). An ANM will be sent on the day of operations, either by 'Change', 'Cancellation' or 'New' messages when a regulation is modified, cancelled or published. The ANM is available on the NM NOP Portal.

8.6 NOTAM Monitoring on Route Availability

NOTAM monitoring will take place between 07.00 and 22.00 local time, 7 days a week (shift hours AD).

NOTAMs issued outside the above mentioned time period will be handled the day after by the Early morning team. NOTAM daily output (D+1). If required (depending on effective / end date), those NOTAMs will be implemented in the CACD.

Note: This procedure concerns actions for the NM AD staff. It is published here to ensure awareness and transparency on the process with the NM operational stakeholders.

Procedure

Note that the same shall be applied to AIP supplements.

All NOTAMs which could impact NOS operations appear in the OPSD Console (via MPMT) based on the official ICAO 'Q' codes (average of 550 per day). The Q codes can be different for each ANSP/State.

Only NOTAMs concerning route updates will be monitored by AD.

The decision to implement route availability updates depends on the following factors:

1. The time at which the NOS receives the notification of a route availability change.
2. The stability of the NOTAM. Some ANSPs issue several NOTAMS (daily) with updates before effectiveness of activity.
3. On request of ANSP, No NOTAM implementation in CACD. Report to OM and decision taken shall be communicated to all teams in the NOS Operations room.

- The ANSP shall handle the NOTAM tactically.
- The ANSP may request the implementation of an H / S restriction.
- The ANSP may request the implementation of a zero rate measure.

Route availability updates shall be implemented (if the NOTAM is stable) 5 days before effective date of NOTAM (AIP Sup), as flight plans may be received up to 5 days prior to EOBT.

Route availability updates received less than 5 days shall be always implemented (if NOTAM is stable).

Route availability updates received less than 1 hour before effectiveness of the NOTAM, but the period of NOTAM activity is more than 2 hours, route availability updates shall be implemented.

All NOTAMs / AIP supplements shall be kept in a dedicated binder at the NM AD Supervisor (SNOS / NOSU) desk.

4. For a number of states participating to the AUP/UUP process, an agreement exists that route closures are handled only by AUP/UUP (as published in an FTI on this subject). For these states, NOTAMs about route closures are not implemented in CACD by the Airspace data operations team but apply automatically upon release of the concerned EAUP/EUUP.
5. Route availability modification without NOTAM publication, The NM OM (or replacement) will take the decision on changing the route availability during the shift of the NMOC Airspace Data Team (06:00 (05:00Summer) UTC – 21:00 (20:00Summer) UTC).

The requested ANSP/State will be asked to publish ASAP the NOTAM.

The change will be published in the NOP headlines news.

8.7 Suggestions for Evolution of Systems and Procedures

FMPs are welcome to propose new user requirements in respect of any of the NM systems and procedures. Proposals will be considered in coordination with the appropriate stakeholder groups and decisions will be implemented by the NM.

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9 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.

9.1 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 in Annex I.

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.

For guidelines for contingency planning of air navigation services, refer to:

https://www.eurocontrol.int/publication/eurocontrol-guidelines-contingency-planning-air-navigation-services

9.2 ATFCM Procedural Contingency

If the ETFMS fails, or in the event of unavailability of the NM site at Brussels (NMOC site contingency), the ATFCM procedural contingency will be initiated. 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.

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 the contingency plan.

More details of the actions that may be expected in the event of an ATFCM procedural contingency event are published in the seasonal ATFCM Procedural Contingency Plan that is published in the contingency portlet of the NOP Portal. Alternatively the plan can also be accessed via the EUROCONTROL Library (http://www.eurocontrol.int/library). It is important that FMPs and affected towers, download and save or print the plan when it is issued (twice a year) both to familiarise themselves with any changes and to ensure that the plan is available even if the NOP Portal is u/s.

9.3 NOP Portal Contingency

In the event of NMOC contingency and unavailability of the NM site at Brussels, users will be informed of the situation, including the URL to access the contingency NOP Portal (www.contingency.nm.eurocontrol.int), via:

- Headline News emails (only available to users that are subscribed at the NOP to the email service for the Headline news), by FP1. In the case of total outage of the Haren Site, users will be informed by CSO Brétigny on the contingency NOP.

- AIMs (available to users that receive AIM via AFTN or SITA Type-B network), sent by FP1. In case of total outage of the Haren site, users will be informed by MUAC on behalf of NM.

10 DEFINITIONS

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

10.1 Terms and Meanings

Airspace Data (AD). The purpose of the Airspace Data section is to manage and provide all necessary airspace information to feed the core NMOC systems (IFPS, ETFMS) and the systems of our operational stakeholders.

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 (ADP). 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.

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.

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.

DNP Editor is the tool used to input internal feedback for the NMOC. It is an internal application. The DNP Editor provides a means of operational communication between tactical and pre-tactical teams. The DNP Editor also supports the NMOC in providing an overview of the network situation (network plan) for the following day (pre-tactical) to external stakeholders, primarily AO, FMP, and TWR. This plan is published as a PDF document on the public NOP Portal.

Integrated Initial Flight Plan Processing System (IFPS). A centralised flight plan processing and distribution service that has been established within the NM.

Monitoring Value (MV). The monitoring value (MV) is the agreed number of flights accepted to enter into a reference location per rolling hour beyond which coordinated actions may be considered between the concerned parties in order to better balance the traffic load.

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.

Rerouteing [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.

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11 CONTACTS

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.

Strategic operations

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

Pre-Tactical operations

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 B2B or B2C (in accordance with agreed procedures) or passed by email.

Tactical operations

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.

If requested by the NMOC staff, any decisions or requests for online CACD changes, new agreed regulations, regulation changes, flight exclusions etc., shall be supported in written, normally via fax or email (email address will be communicated at the time). In case of a long list of requests, the recommendation is to advise by phone the relevant NMOC position and then support the request with fax or email.

Flow Management Positions, Towers and Aircraft Operators that need support from the NMOC should use the FM Helpdesk in order to request help for flights with specific problems. The e-Helpdesk has a dropdown menu with a wide selection where FMPs, TWRs and AOs can specify their particular issue / problem.

Contact addresses / telephone numbers of FMPs

Contact addresses and telephone numbers of individual FMPs are available in the appropriate NM Agreement.

Contact addresses / telephone numbers at NM operations

Telephone numbers of the NM OM, NM DOM and NM pre-tactical should be used for operational coordination between FMPs and the NM.

BRUSSELS	NM OPERATIONS MANAGER	NM DEPUTY OPERATIONS MANAGER	NM AOLO	HELPDESK	NM PRE-TACTICAL	NM MILO	NM AF	NM MET Specialist
OPS TELEPHONE	(32) 2 745.19.31	(32) 2 745.19.00	(32) 2 745.19.92	(32) 2 745.19.01	(32) 2 745.19.20	(32) 2 745.19.34	(32) 2 745.19.03	(32) 2 729.19.25
OPS FAX	(32) 2 729.90.27	(32) 2 729.90.27			(32) 2 729.90.26	(32) 2 729.30.08		
OPS E-MAIL	NM.OM@eurocontrol.int	NM.DOM@eurocontrol.int	NM.AOLO@eurocontrol.int		NM.PRETACT@eurocontrol.int	NM.MILO@eurocontrol.int	nm.airports@eurocontrol.int	nm.MET@eurocontrol.int
OPS AFTN	EUCHZMTA	EUCHZMTA	EUCHZMTA		EUCHZMTA			
OPS SITA	BRUEC7X	BRUEC7X	BRUEC7X		BRUEC7X			
WORKING HOURS	06:00 – 21:00 UTC	H24	06:00 – 21:00 UTC	H24	08:00 – 21:25 UTC	7:00 – 17:00 UTC in winter time (6:00 – 16:00 UTC in summer time)	03:00-16:00 UTC (summer time) and 06:00-14:00 UTC (winter time)	0400-2000 UTC (summer time) and 0500-2100 UTC (winter time)
NOP Portal	https://www.public.nm.eurocontrol.int/PUBPORTAL/gateway/spec/index.html							

Other ATFCM contact addresses at the NM

BRUSSELS	NM STRATEGIC SECTION	NM OPERATIONS ANALYSIS (OPA) SERVICE	NM ATFCM INCIDENT REPORTING	NM CSO
E-MAIL	nm.strategic.operational.planning@eurocontrol.int	nm.opa@eurocontrol.int	nm.incident@eurocontrol.int	nm.cso.help-desk@eurocontrol.int

12 ANNEX A: FLIGHT DATA

12.1 Flight Data Information

All flight plans for IFR/GAT flights or parts thereof intending to operate within the IFPZ shall be submitted to the IFPS for processing. When a message submitted to the IFPS for processing has been acknowledged, the IFPS shall send a copy to the ETFMS, at the earliest 120 hours before EOBT.

The IFPS shall build a four dimensional profile for every flight, based on the profile calculated from the flight plan. Where an associated message is processed, the existing profile shall be re-calculated, incorporating the revised data held in that associated message e.g. DLA, CHG, CNL and DEP.

Note: The IFPS invalidates DLA and CHG messages that indicate a negative EOBT (an EOBT that is earlier than the current EOBT) or changes greater than 20 hours in the future.

Note: Where the IFPS shall invalidate DLA / CHG messages that indicate a new EOBT that becomes in the past compared to the current system time (as a result of manual processing delays), those messages will be invalidated with the error message:

'*EFPM223*: EOBT IN THE PAST COMPARED TO IFPS SYSTEM TIME'

ATC may also send messages to ETFMS to update the flights according to ATC events.

Some AOs are sending Aircraft (operator) Position Report (APR) messages to ETFMS. APR messages will be sent for long haul flights departing outside the NM area and which are planned to enter the NM area (i.e. all departures excluding the one's from E*, L* and GC*).

The APR message is expected to be sent 2 to 3 hours before the flight enters the NM area and contains estimate of the arrival time (ETA) of the flight or actual times over geographical positions at a distance from the NM area.

This data will then be used by the ETFMS to update the current flight model (CTFM) of the flight and also all other times (ETOs) in the flight profile are updated accordingly.

Upon the flight's entry into the NM area, the flight's profile is then updated by FSA and CPR messages where applicable.

Where a flight plan is found to be missing ATC shall send an ATC FPL Proposal (AFP) message to the IFPS providing the information for this flight.

The result for the IFPS is called APL (ATC FPL) and is distributed to all ATC Units. The same may apply when a route is changed by ATC once the flight is airborne. Then it is called an ATC Change (ACH).

Flight Notification Message (FNM) from Gander and Message From Shanwick (MFS) are messages that are received for trans-Atlantic flights which provide an estimate for the oceanic exit point. These estimates are also used by the ETFMS to update flight profiles.

Note: An internal NM model for terminal procedures have been aligned to AIXM. Namely, NM supports an additional terminal procedure type - Instrument Approach Procedure (IAP). IAP starts at the Initial Approach Fix (IAF) and ends at the RWY. Old terminal procedure model are still supported for backwards

compatibility reasons. Having IAP in NM systems, will increase precision of the flight trajectory calculations and landing time estimation.

The close time of a flight in IFPS shall either be upon successful processing of an arrival message, 2 hours after the flight is terminated in the ETFMS, or, 8 hours after the total Estimated Elapsed Time (EET) of that flight; whichever comes first.

12.2 ATFCM Flight Progress Messages Originated by NM Systems

12.2.1 ETFMS Flight Data Message (EFD)

The purpose of the ETFMS Flight Data message (EFD) is to inform users with the latest updates and about the latest state of a flight in ETFMS.

The EFD is basically an extract of flight data that is available in the ETFMS of which the flight profile is the most important part. The EFD will be sent by ETFMS to ANSPs of FDPAs that request such information.

ETFMS will distribute the EFD in broadcast mode. The receiver can filter out the required update types and of each EFD, the required data can be extracted.

The first event at which an EFD will be sent is at the moment of the flight plan creation (e.g. reception of a FPL or APL message from IFPS).

EFD distribution will end when the status of the flight changes to terminated, cancelled or suspended in ETFMS. ETFMS will send an EFD for the status change followed by a limited number of periodically transmitted EFDs.

In between the transmission of the first EFD and the last one, EFDs will be distributed when the EFD data changes (e.g. FPL, CHG, DLA, CPR, FSA, DPI, slot changes, processing of a diversion by ETFMS, etc.).

12.2.2 Flight Update Message (FUM)

This message is used to supply airports of destination (ADES) with an Estimated Landing Date and Time (ELDT). In addition to the ELDT, the FUM will contain the last point in the flight plan route (PTID) with the corresponding Estimated Time Over (ETO).

The first FUM will be sent at earliest landing time as known by ETFMS - 3 hours or at ATC Activation. The last FUM is sent when ETFMS considers the flight as terminated, which is approximately 20 minutes after landing time.

The FUM will be sent at significant updates of the flight in the NMOC/ETFMS system in the following circumstances:

- at ATC activation of a flight;
- at LandingTime – 3 hours;
- at modification of the ELDT of more than 5 minutes;
- at important flight status changes (e.g. FLS);
- when the flight is reported as diverted.

The FUM will be sent by ETFMS to an address that is derived from the airports of destination (ADES) and only to those users/systems that wish to receive such information.

In case the FUM is sent for a diverted flight, i.e. when the 'adesold' field is present, the FUM is sent to both the new aerodrome of destination (in the 'ades' field) and to the original aerodrome of destination (in the 'adesold' field).

The FUM will have to be sent via the AFTN.

12.3 Correlated Position Reports (CPRs)

The ETFMS is receiving Correlated Position Report (CPRs), giving radar position information, at a regular interval of 30 seconds or 1 minute depending on the ANU (Air Navigation Unit).

Individual CPRs will arrive in the ETFMS inside a CPM (message). The content of an individual CPR for a particular flight may be checked in the operational log.

CSO is monitoring the status of the entry nodes and will call the NM OM if any node is not sending CPMs to ETFMS for periods greater than 15 minutes.

CPRs received within a radius of 5 NM and below 2 FL around ADEP or ADES will be ignored (except for activation monitoring).

ADS-B data will be processed by ETFMS in the same manner as the CPR data received. The same time/vertical/lateral deviation thresholds apply. The refresh rate of the ADS-B data is 1 minute.

Note: To ensure that flights are correctly terminated in the system, ADS-B data received 5 minutes after the CTFM arrival time of a flight will be discarded in ETFMS.

12.3.1 Deviation Monitoring

A flight may deviate from its last computed profile triggering a profile recalculation in one or more of the following aspects:

12.3.1.1 Time

Any deviation of the profile by more than 1 minute.

Note: If there is a level and/or a lateral deviation together with a time deviation, then the minimum time parameter does not apply (e.g. any time deviation even less than 1 minute is recalculated).

12.3.1.2 Level

For the en-route phase, any deviation of the profile by more than 400 feet.

For climb / descent phases, any deviation of the profile by more than 1000 feet.

The point and airspace profiles are updated accordingly.

12.3.1.3 Lateral

Any deviation of the profile by more than 10 nautical miles (NM).

Note: A further route included in an FSA or CPR message will always result in a profile recalculation even if the deviation does not exceed 10 NM.

If an incoming CPR / FSA message results in a recalculation of the profile of a flight , then the resulting 'NEW PREDICTION' may be seen in the operational log as follows:

NEW PREDICTION Source: CPR / FSA Deviation info: Time-xxx sec, Level-xxx, Lateral-xxx nm Update info: Time shifted Y/N, Level updated Y / N, Lateral updated Y / N Regulation_Id; TRUE / FALSE; TTO_Fix_Id; TTO - Date and Time; FL; ATT (Actual Time at Target) – Date and Time; Compliance (BEFORE / INSIDE / AFTER)

Note: Under this line (one line per regulation the flight is subject to), each new profile deviation triggered by airborne data will give an indication if the flight is still crossing the regulation and, if yes, then compare if the ATT is compliant with the TTO.

CPR / FSA containing information which is outside the acceptable parameters will be discarded. This functionality is mainly useful to evaluate the quality of the profile by comparing various flight models to the received airborne message (plots, FSA...).

The ETFMS uses the measured aircraft speed (from CPRs) to extrapolate the speed to the subsequent segments of the route and update the flight profile accordingly.

12.3.1.4 Diverted Flights from CPR Information

The flight diversion could be triggered by the CPR data received when the ADES field received in the CPR messages is different from the ADES of the initial FPL.

The ETFMS processing could be described as:

If the ADES in the CPR messages is the ADEP of the flight plan, then the diversion is triggered immediately. Same when the ADES in the CPR messages is one of the alternate aerodromes received from the flight plan. However, when the ADES from the flight plan is neither ADEP, nor the alternates, then the flight diversion will be decided only after receiving 10 consecutives CPR messages with the same aerodrome of destination.

Once the flight is diverted based on this information, the CTFM is built with the diverted ADES.

12.4 Tactical Flight Models

The flight data into the ETFMS are called Tactical Flight Models (TFMs).

When a flight plan is received, a Filed TFM (FTFM) is created. All known information on the flight is part of it. The FTFM will remain available until the flight is archived. The FTFM shows the request from the AO.

Any modification on the flight made by the AO (DLA, CHG...) or some DPI messages will update the FTFM.

At such a level, the status of the flight will be FILED.

Example

An FPL is received from the IFPS. An FTFM is created.

A DLA, CHG is received. It modifies the FTFM and it is also indicated with * next to off-blocks time in FTFM.

Note: If a new FPL is received in ETFMS when the previous one has not been cancelled, it may be merged with the initial one provided ARCID and ADEP are the same and EOBT not much different (less than the flight duration).As the merging of flights is different in the IFPS and in the ETFMS, the flight may exist in the IFPS and not in the ETFMS. When this happens, the only solution is to ask the AO to cancel and refile a FPL with a different call sign in order for the ETFMS to allocate a slot.

If the flight is subject to a regulation or to a rerouteing, the ETFMS creates a Regulated TFM. This RTFM indicates the effect of the measure on the flight (CTOT, route...). The status of the flight may be:

- SLOT ALLOCATED (Expecting FSA) & CPR
- REROUTED
- REROUTED SLOT ALLOCATED
- FILE SLOT ISSUED (Expecting FSA) & CPR

If the ETFMS receives a CPR / FSA, DEP or some DPI messages for a flight, a Current TFM (CTFM) is created. The CTFM indicates the real situation of the flight. The flight is in a status ATC activated. When the system time reaches the CTOT for a flight, the CTFM is also created. The flight is in a status TACT activated (Expecting an activation message).

Several FSAs may be received for the same flight and will update the CTFM profile forwards if there is a deviation. The first FSA received may also update the TOT whilst any subsequent FSA will only update backwards to the last frozen position (last received FSA / CPR).

A Nominal Tactical Flight Model (NTFM) has been introduced to normalise PREDICT demand data. It captures the initial flight plan received by the ETFMS before A-CDM data, CHG or DLA messages are applied. The presence of an NTFM is shown in the ETFMS flight data models and in the flight list's Flight Status column where a T and N indicate time and route differences.

12.4.1 Profile Tuning Restrictions (PTRs) and TFM updates

ETFMS uses PTRs for all the flight profiles that a flight can have (FTFM, RTFM and CTFM). The activation/deactivation of a PTR shall result in:

- the update of the active/existing flight profiles impacted by that PTR, according to its new status (FTFM, RTFM and CTFM), and;
- the consequential update of the impacted traffic counts.

More specifically:

- for a flight having only a FTFM - the FTFM is updated following an activation/deactivation of a PTR;
- for a flight having a FTFM and RTFM - both the FTFM and the RTFM are updated following an activation/deactivation of a PTR;

- for a flight having a CTFM - the CTFM is updated following an activation/deactivation of a PTR, but only the portion of the profile still to be flown.

Corresponding traffic counts are updated.

12.5 Flight Activation Monitoring (FAM)

As part of the ETFMS implementation, 'Flight Activation Monitoring' (FAM) has been implemented so as to detect flights flying later than planned (or not flying). This is done by looking at the flights for which no radar plots are received when the flight is supposed to be airborne (TACT activated) in an airspace covered by an entry node configured for activation monitoring.

When no radar plots have been received for flights subject to Flight Activation Monitoring:

- Flights departing from within, or with an elapse time of less than 3 hours to, a CPR-covered FAM enabled area will be 'shifted' in ETFMS up to 3 times, for 5 minutes each time, and will then be suspended after another 2 minutes (i.e. after 17 minutes in total) by an FLS.
- Flights departing from non-CPR covered areas with an elapse time of more than 3 hours to a CPR-covered FAM enabled area will be 'shifted' up to 23 times, for 5 minutes each time, and will then be suspended after another 5 minutes (i.e. after 120 minutes in total) by an FLS.

Example

A flight is supposed to take-off at 09:00 from a FAM enabled area. At clock time 09:00 the ETFMS will activate the flight. At 09:05 if no CPR / FSA / DEP is received the ETFMS will SHIFT the ATOT and all ATO times forward by 5 minutes. If no CPR / FSA / DEP info is received the ETFMS will continue to shift the flight in 5-minute intervals to 09:15. At 09:17 the flight will be suspended and an FLS sent. The comment 'NOT REPORTED AS AIRBORNE' will be stated. The Flight Data screen will show: Suspension Status: 'Suspended by activation monitoring waiting for ATC activation'. This will require a confirmation (DLA) by the AO or ATC stating the new EOBT before a DES or SAM will be sent. If the flight will not operate, the AO has to send a CNL message.

FAM is applied on all flights, whether regulated or not, departing from, landing at or crossing areas where CPRs are received by the NM and FAM is activated.

A flight departing from, landing in or crossing a CPR / FAM enabled area with less than 3 hour flying time to the FAM enabled area, and not reported as airborne, will be shifted three times by 5 minute steps. An FLS will be sent after 17 minutes.

A flight departing from a non-FAM enabled area but with a destination in or crossing a CPR / FAM enabled area with more than 3 hours flying time to the FAM enabled area and not reported as airborne will be shifted by 5 minute steps for a period of 120 minutes.

A flight departing from a non-CPR / FAM enabled area will have FAM performed from a position along the route where 'safe coverage' starts, i.e. FAM will be performed from the planned entry time to the CPR enabled area.

The airspaces that are used by the system to determine 'safe coverage' are called ATC unit Airspace (AUAs). For a flight to be monitored it will have to remain in the first AUA it encounters on its profile. This is called the Flight Minimum Traversal Time (currently set to 0 seconds). All the AUAs a flight is planned to fly through can be seen in the Airspace Profile of the flight.

A flight shifted by Flight Activation Monitoring into an XCD regulation will not be affected by the XCD (i.e. suspended due strike) but will receive the suspension CTOT+17, if still not airborne. A flight shifted by Flight Activation Monitoring into a normal regulation will take up a slot in the following manner:

- Fill empty slot
- Push down Pre-allocated flight
- Take slot -60 / +20 min (bracketed slot)
- Create overload slot

Note: FAM is automatically disabled for an area in case ETFMS does not receive any CPRs from the area (i.e. Entry Node) anymore.

12.5.1 FAM Status

The current (or past) effect of the FAM on the flights is maintained in order to display them on the flight data display, the flight list and (in particular) in the slot list. The FAM status of the flight may have one of the following values:

Code	Status	Meaning
. ("N" in CHMI)	Not_Under_FAM	not under FAM yet or never under FAM.
F	Subject_To_FAM	currently subject to FAM, if no data received, flight will be shifted soon.
f	Was_Subject_To_FAM	was subject to FAM but airborne data received before first shift
S	Shifted_By_FAM	currently shifted by FAM
s	Was_Shifted_By_FAM	was shifted by FAM, FPL data received when shifted
a	Airborne_When_Shifted_By_FAM	was shifted by FAM, airborne data received when shifted
U	Suspended_By_FAM	currently suspended by FAM
u	Was_Suspended_By_FAM	was suspended by FAM, FPL data received when suspended
A	Airborne_When_Suspended_By_FAM	was suspended by FAM, airborne data received when suspended

Before a flight is TACT activated, the flight FAM status will be set to Not_Under_FAM. When (and if) a flight becomes TACT activated, the status will be changed to Subject_To_FAM, if the flight is covered by entry nodes for which activation monitoring is on.

When the flight is shifted, the status will be changed to Shifted_By_FAM. After the shifting period, FAM will suspend the flight and its status will be changed to Suspended_By_FAM.

In case flight plan data (e.g. a CHG, a DLA) is received while the flight is shifted or suspended by FAM, the flight FAM status will be changed to Was_Shifted_By_FAM or Was_Suspended_By_FAM.

An FCM for a flight suspended by FAM will not be accepted. This will trigger an ETFMS error message:

'CONFIRMATION MSG IGNORED FOR FLIGHT SUSPENDED BY FAM. PLEASE USE DLA OR CHG INSTEAD'

An FCM for a flight that is ATC activated will not be accepted by SITA or AFTN, and will trigger the following ETFMS error message:

'FLIGHT ALREADY ACTIVATED'

An FCM for a flight that is TACT activated will not be accepted and will trigger the following ETFMS error message:

'CONFIRMATION MSG IGNORED FOR FLIGHT WITH TAKE OFF TIME IN THE PAST. PLEASE USE DLA OR CHG INSTEAD'

In case airborne data (e.g. FSA, DEP, ARR) is received while the flight is shifted or suspended by FAM, the flight FAM status will be changed to Airborne_When_Shifted_By_FAM or Airborne_When_Suspended_By_FAM.

A flight can be subject to FAM multiple times e.g., the flight could first be suspended by FAM and then delayed by a DLA. Based on this DLA, it could then be shifted again by FAM.

When the flight is not (actively) under FAM anymore (i.e. it is not TACT activated anymore), the FAM status shown for this flight will be based on the worse FAM status encountered.

In case the worse FAM status of the flight is 'worse' than the current FAM status of the flight, the flight data query display will show both the current FAM status and the worse FAM status encountered.

The order in the table above follows the 'worse' characteristic of the status. In other words, Airborne_When_Suspended_By_FAM is 'worse' than Was_Suspended_By_FAM.

12.5.2 FAM Control

An adjustable parameter enabling / disabling FAM is available.

If a flight max flight level is below the parameter (currently F090), no FAM will be done for this flight even if it is covered by an entry node.

If a flight ADEP is member of one or more 'disabling FAM' set of aerodromes, then no FAM will be done for the flight even if it is covered by an entry node. The 'Disabling FAM' set of aerodromes are all the set of aerodromes with name starting with DISFAM.

In the flight data query display, a new line (heading is FAM Disabled) has been added to show if there is a reason to disable the FAM for this flight. If there is no reason, the flight data display will show Not Disabled. If FAM is disabled for this flight due to a disabling FAM set of aerodromes, the display will show Sad

DISFAM. If the FAM is disabled because of flight flying at a low altitude, the display will show Low Altitude.

The line FAM Disabled in the flight data query display represents the ‘static’ disabling status. The flight will be really subject to FAM only if 'Not Disabled' and the flight is covered by an ‘active’ entry node at the time the system will shift it or suspend it.

When the flight is TACT activated (i.e. possibly currently under FAM / shifted), the information shown in the data display is the ‘real current complete’ FAM status. Otherwise, the information represents the ‘static’ FAM information for the flight (i.e. assuming that the entry nodes are correctly sending radar plots).

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13 ANNEX B: INTEGRATED AIRPORTS

The term integrated airports has replaced the former “A-CDM airports” as it includes the 3 levels of integration with NM systems: Advanced Network Integrated (ANI), A-CDM and Advanced ATC Tower.

It is essential for airports to share dynamic and highly accurate data with the European ATM Network.

The Departure Planning Information (DPI) messages supply the Network Manager Operations Centre (NMOC) with airport situational information direct from the airport Collaborative Decision Making (CDM) systems in order to update the real-time flight situation prior to take-off.

In a symmetric process, the Flight Update Messages (FUMs) sent by the NMOC provide airports with an accurate estimated landing time of arriving flights, thus improving the planning of outbound flights. FUM messages may be provided to any airport (of destination) on request. This service is also available via B2B.

Airports and FMPs can also provide Arrival Planning Information (API) messages. The General API (G-API) aims to inform NM about known/available pertinent local flight arrival planning and actual data, while Target Take-Off (TTA-API) and Target Time Over APIs (TTO-API) aim to integrate Airport and FMP needs into the ATFCM processes.

Currently, NM uses 4 different levels of integration of the airports into the ATM Network:

- Advanced Network Integrated (ANI) Airport (for AOP/NOP integration programme)
- CDM Airports (A-CDM);
- Advanced ATC TWR Airports;
- Standard Airports.

The Advanced Network Integrated (ANI) is intended for Airports that have fully adopted the Airport CDM concept and is the highest level of integrating Airport Operations with the ATM Network. Compared to CDM Airports, the interaction with NMOC is extended with provision of P-DPI and G-API messages, airside capacity updates, in order to contribute to the Network Operations Plan (NOP). ANI airports can also exchange Target Take-Off (TTA-API) and Target Time Over APIs (TTO-API), those messages are however optional.

CDM airports are airports that have implemented the Collaborative Decision Making process as is specified in the Airport CDM Implementation Manual and provide the full set of DPI messages to NMOC.

Advanced ATC TWR airports are airports that have not implemented or not fully implemented the CDM process but still would like to integrate into the ATM Network using a limited set of DPI messages.

Standard airports (non-CDM airports) are not integrated into the Network via the transmission of DPI messages to the NMOC.

13.1 Benefits of Advanced Network Integrated (ANI) Airports

In addition to the benefits of CDM Airports, the integration as an ANI airport provides stakeholders additional benefits by extending the timeframe of A-CDM

further than three (3) hours before off-block and by providing enhanced demand picture calculations and traffic predictability.

It improves common situational awareness in reduced capacity situations and an improved pre-tactical capacity and demand planning (e.g. via the Airport Corner).

TTA-API and/or TTO-API messages (optional elements for ANI airports) allow the improvement of Arrival flows when regulations are in place and the optimisation of ATFCM delays.

13.2 Benefits of A-CDM

Airport CDM brings substantial benefits to all partners by improving the quality of information on which decisions are made. This will lead to enhanced operational efficiency and facilitate optimum use of available capacity. With the number of airports implementing Airport CDM increasing, the Network benefits will be increased.

These benefits include an enhanced flow management process and reduced number of wasted ATFCM slots resulting in more used capacity throughout the Network as a more accurate timing of the traffic is provided to all partners. The DPI messages provide a way for the CDM airports to be integrated into the ATFCM process, supporting therefore the management of the Network by allowing a better alignment between airports and ATC capacity. They allow the NM to better know the CDM airport constraints for a given flight and to take them into account in its own processes.

CDM airports have a better knowledge of the traffic to its destination and are able to take it into account in its own processes. The short term forecast of the traffic situation allows A-CDM to adapt and efficiently improve operations at the airport.

Airlines also benefit as they get a better view of their respective fleet situation before the departure of the flights.

13.3 Benefits of Advanced ATC TWR Airports

An advanced ATC TWR airport provides Target Take-Off-Time (TTOT) estimations as well as Variable Taxi-Times (VTTs) and SIDs to the NMOC. These are provided from the moment that the aircraft leaves the blocks, which allows the NMOC to take the actual off-block event into account for ATFCM operations.

13.4 Impact on Network Operations of Integrated airports

For standard airports, the communication concerning ATFCM matters is done between the FMP and the NMOC.

For integrated airports it is normally agreed that the TWR and the NMOC communicate directly when it concerns individual flights, for example a flight for which a DPI has been received with late TTOT. The communication concerning global airport related issues should still go via the FMP, for example airport default capacity changes.

For the purpose of communication and cooperation between an integrated airport and the NMOC, 3 levels of Network impact of an airport have been identified:

- Level 0 - Normal operations.
- Level 1 - Adverse conditions or hindered operations
- Level 2 - Disrupted operations

The relevant Network impact level will be agreed between the TWR and the NMOC and the cooperation and support that the NMOC can give to a CDM airport depends on this Network impact level.

The definition of Network impact level will allow for a simplified communication between TWRs, the NMOC, and each CDM integrated airport and the NMOC.

The TWR / FMP shall inform the NMOC of any change in operations that significantly impact the Network (e.g. a change from adverse conditions back to normal operations). This applies to deteriorations of situations but also of improvements.

The NMOC may agree to have daily conference calls in order to improve operations with specific integrated airports if required.

For more information regarding the levels of network impact and the communication procedures between integrated airports and NMOC, please also check the DPI implementation guide.

13.5 Departure Planning Information (DPI)

Departure Planning Information (DPI) messages are system-to-system messages sent by integrated airports system to ETFMS. The types of DPI messages are:

- P-DPI (Predicted DPI)
- E-DPI (Early DPI)
- T-DPI-t (Target DPI - Target)
- T-DPI-s (Target DPI - Sequenced)
- A-DPI (ATC DPI)
- C-DPI (Cancel DPI)

Each is sent at different times and at different trigger events. The messages include data about take-off times, i.e. estimated, aircraft operator or ATC target and push-back times by ATC taking into account individual taxi / sequencing times.

DPIs are complemented with the reception by the CDM system of updated NM data either via the FUM messages or derived from the EFD messages. A FUM will be sent for any change in the CDM status of the flight.

An essential requirement for DPI messages to be sent from an airport system is that a fully functioning CDM organisation exists at the airport concerned. Common data is shared and used by all partners at the airport; with DPIs, this information is also given to the NM, where it is used in its systems to update its own data making it more dynamically up-to-date, and subsequently it is shared with all NM users.

13.5.1 DPI Messages

There are 5 main types of DPI messages, the Predicted-DPI, the Early-DPI, the Target DPI-target, Target DPI-sequenced, the ATC-DPI and the Cancel-DPI. Each DPI serves a specific purpose and should be sent at its appropriate event and time frame. The DPI messages are recognised by their DPISTATUS in the message. The DPISTATUS of the messages are:

DPI Type	DPI Status
P-DPI	DPISTATUS PREDICTED--
E-DPI	DPISTATUS EARLY
T-DPI-t	DPISTATUS TARGET
T-DPI-s	DPISTATUS SEQ
A-DPI	DPISTATUS ATC
C-DPI	DPISTATUS CNL

The most important data provided in any DPI message is the Target Take-Off Time (TTOT). The TTOT is used to update the traffic profiles with more accurate information.

Some CDM airports anticipate their transition to ANI.

CDM Airports and Advanced ATC Tower airports provide only one TTOT value in DPI messages. ANI airports may provide up to three TTOT types in the same DPI message, in the following order:

1. turnaroundTTOT
2. earliestTTOT
3. consolidatedTTOT

During normal operations, it is expected to always have a turnaroundTTOT in the message, an earliestTTOT if there is a local airport capacity constraint and consolidatedTTOT if the flight is regulated.

Note that in specific procedures, when two or more TTOT types are provided, the “reference TTOT’’ will be referring to the earliestTTOT (if present) otherwise the ‘’reference –TTOT’ will be referring to the turnaroundTTOT.

For more details about the TTOT types, please refer to the DPI Implementation Guide.DPI messages also provide the ETFMS with other data that is used to update the traffic profiles:

- A variable taxi-time per flight.
- The SID per flight selected by ATC.

DCTs in the SID are taken into account by the ETFMS for the profile calculation. The ETFMS accepts a waypoint or a navigation aid point as a value in the SID field.

DPI messages may also provide the airport with the aircraft type (ARCTYP) and the aircraft registration as updated by the airport.

One or more P-DPI, E-DPI, T-DPI-t, T-DPI-s and A-DPI messages may be transmitted if the departure target times differ from those previously transmitted by a defined parameter (e.g. 5 minutes or more).

Normally, the sequence of DPI messages is P-DPI > E-DPI > T-DPI-t > T-DPI-s > A-DPI.

However, this order is not necessarily enforced by ETFMS during operations.

For some aerodromes and AOs, and at their request, the ETFMS will compare the TOBT in a received DPI with the last EOBT of the flight and generate a DLA message (on behalf of the AO) if the TOBT is later than the EOBT, therefore updating the FTFM. According to ICAO, any changes to the EOBT of more than 15 minutes shall be communicated, either by using this feature or via a DLA message from the AO.

Flights departing from DPI transmitting aerodromes may benefit from the extended departure and slot tolerance windows during adverse operating conditions at an airport enabled periods.

13.5.2 DPI Types

P-DPI (Predicted-DPI)

The Predicted DPI (P-DPI) message provides NM/ETFMS with relevant data from the airport system as soon as this data becomes available. Its purpose is to provide Airport Data before the start of the Airport CDM process. It is provided only by ANI airports.

Airports can send P-DPIs up to 144 h prior to EOBT (6 days). It will update the flight PFD and the FPL when there is one. The transmission of P-DPI message update stops at EOBT-3hrs, i.e. when the CDM process starts. If there is no FPL in ETFMS, the P-DPI message will be rejected with “FLIGHT NOT YET CONFIRMED BY FLIGHT PLAN” or by “NOT EXISTING FLIGHT”.

The CDM Status is set to ‘p – predicted’ if the P-DPI is accepted. For ANI airports the P-DPI may contain a turnaroundTTOT and earliestTTOT.

E-DPI (Early-DPI)

The E-DPI message in the operational log, identified by the DPISTATUS=EARLY field, is sent after verification of the flight plan EOBT with the airport slot (SOBT) and as such confirms the ICAO FPL message. The provided SOBT field is currently not used by ETFMS. For CDM flights, the Scheduled Off Block Time (SOBT) is not relevant before the very first E-DPI (or is always equal to the EOBT of IFPS messages) and it will be set or updated by the greatest value between the EOBT field of the very first E-DPI message and the EOBT field of the latest IFPS message received before this very first E-DPI. E-DPI also provides the ETFMS with the first estimate of the taxi-time and the SID, if available.

The ETFMS handles the TTOT in the E-DPI in the same way it handles DLA messages, i.e. updating the FTFM triggering a recalculation of the Network impact with the update of the CTOT if applicable.

The ETFMS will show an IFPS discrepancy if the TOBT is outside a window of + / - 15 minutes around the last known EOBT.

The CDM Status is set to ‘e – estimated’ if the E-DPI is accepted.

For ANI airports the E-DPI may contain the turnaroundTTOT and the earliestTTOT.

T-DPI-t (Target-DPI-target)

Provides ETFMS with an updated Target Take-Off Time (TTOT).

If no E-DPI has been received previously, the ETFMS will accept the T-DPI but a comment in the operational log 'T-DPI-t received before E-DPI' will be displayed.

The TTOT in the T-DPI-t is based upon the Target Off-Block Time (TOBT) derived from data such as the estimated landing time of the inbound aircraft, passenger connections, crew connections and the estimated turn-around time. It is based upon flight plan data and (local) updates during the turn-around. In general this information represents the AO's desires and does not take into account ATC constraints at the airport and ATFCM restrictions. Updates of the TTOT (TOBT + variable taxi time) by 5 minutes or more will trigger a new T-DPI-t message.

The CDM Status is set to 't – targeted' if the T-DPI-t is accepted.

T-DPI-t should be sent from EOBT-2 hours to EOBT - 30 minutes.

ETFMS behaviour in response to TTOT from T-DPI-t message:

1. Non-regulated flights

- The ETFMS will use the TTOT to update the FTFM.
- The ETFMS will re-assess the impact of the T-DPI-t on the ATM Network.
- The ETFMS will show an IFPS discrepancy if the TOBT is outside a window of + / - 15 min around the EOBT (IFPS OBT).
- Any ATFCM suspension conditions will be re-assessed. If the flight remains or becomes suspended, the FTFM becomes the reference and it is based upon the TTOT of the T-DPI-t and the ETFMS will resend an FLS.

2. Regulated flights

- If the TTOT is earlier than the Slot Tolerance Window (STW), then normally the CTOT is kept and TTOT is taken as a 'no slot before' time. The true revision process will try to improve the CTOT up to the last known TTOT.
- If the TTOT falls within the STW (-5 / +10), then the FTFM flight profile is updated to this time with no recalculation done to the regulations (CTOs).
- If the TTOT is after the STW, then a complete recalculation is performed by the ETFMS. The message is considered as a DLA by the ETFMS. Then the True Revision Process and the 'recovery hole' mechanism process may help to reduce the ATFCM delays.
- The flight will get the status RFI automatically regardless what the CACD settings for the AO concerned are and regardless of any previously received ATFM message.

The AO is not expected to (and should not) send SWM when operating from CDM airports.

For ANI airports the T-DPI-t may contain the turnaroundTTOT, the earliestTTOT and consolidatedTTOT.

T-DPI-s (Target-DPI-sequenced)

The T-DPI-s (Sequenced) is based upon the Target Start-up Approval Time (TSAT) derived from the ATC sequencing plan. This information represents the ATC's desires and takes into account ATFCM restrictions and as accurately as possible any other taxiing / sequencing delays.

In some airports, T-DPI-s messages are sent at TOBT - 40 minutes for non-regulated flights and at TSAT - 10 minutes for regulated ones. Other airports are providing an optimal TTOT for regulated flights from TOBT - 40 minutes onwards. The optimal TTOT is the earliest possible TOT for a flight, taking all local constraints (e.g. TOBT, TSAT…) into account but not the CTOT.

CDM Status in the Flight List is set to 's' (sequenced).

ETFMS behaviour in response to T-DPI-s message:

1. Non-regulated Flights

The TOT of the FTFM is based upon the flight plan (FPL, DLA and CHG) and updates of P-DPI, E-DPI and T-DPI-t.

If the TTOT (TSAT + taxi time) is inside the DTW around the take-off-time of the FTFM then:

- Regulations crossed and suspension conditions are not assessed.
- Traffic load is updated through the creation of the Current Tactical Flight Model (CTFM) based upon the TTOT. If some regulations are now crossed by the CTFM, the slot lists are updated accordingly.

If the TTOT (TSAT + taxi time) is outside the DTW around the take-off-time of the FTFM then:

- Where the updated TTOT falls before the DTW, regulations crossed and suspension conditions are assessed based on this 'no slot before' time. If some regulations are crossed, a complete recalculation is performed by the ETFMS. If the updated TTOT falls after the DTW, the ETFMS will consider it as a DLA message.

In all cases, the traffic load is updated through the creation of the CTFM based upon the TTOT. FAM will start shifting at the TTOT and will suspend the flight 17 minutes after the TTOT.

2. Regulated Flights

When the TTOT (TSAT + taxi time) is before the STW then:

- The TTOT is stored for possible future use as a no slot before time. The ETFMS will try to improve the CTOT up to the provided no slot before time at regular intervals and the ETFMS will use the no slot before time when the regulation schema is modified.
- If clock time has reached TOBT – 5, the message is processed by the ETFMS as a REA message and the system will try to improve the flight in the same manner.

Note that in case the TTOT is even before the ETOT of the FTFM, then the FTFM is updated. In fact in this case the T-DPI-s is processed in exactly the same way as a REA message (see REA message for more details).

When the TTOT (TSAT + taxi time) is inside the STW then:

- Regulations crossed and suspension conditions are not assessed, the traffic load is updated through the creation or update of the CTFM based upon the TTOT. If some regulations are (still or no longer) crossed by the CTFM, the slot lists are updated accordingly. FAM will start shifting at the TTOT and will suspend the flight 17 minutes after the TTOT.
- The ETFMS will no longer provide any CTOT improvements and the flight may be impacted by modifications of the regulation schema.
- When the TTOT (TSAT + taxi time) is after the STW then:

- Regulations crossed and suspension conditions are re-assessed based on this ‘no slot before’ time.
- If some regulations are still crossed, a complete recalculation is performed by the ETFMS. Otherwise, the RTFM is adjusted to this TTOT but the traffic load is updated through the creation of the CTFM based upon the TTOT. FAM will start shifting at the TTOT and will suspend 17 minutes after the TTOT.
- If the flight no longer crosses any regulations, an SLC message is sent.

For ANI airports the T-DPI-s may contain the turnaroundTTOT, the earliestTTOT and consolidatedTTOT.

A-DPI (ATC-DPI)

The message provides the ETFMS with an accurate estimation of the actual take-off time. It is based upon the take-off-sequence of the flight and it is sent at off-block, push-back or taxi clearance.

The ETFMS activates the flight on reception of the A-DPI; the CTFM is created.

FAM will start shifting at the TTOT and will suspend the flight 17 minutes after the TTOT.

The A-DPI TWRUPDATE is a special type of A-DPI that can be manually triggered by the TWR controller to either:

a) Request a CTOT extension.

b) Request a new CTOT (search for first available CTOT).

c) Request de-suspension for a flight that was suspended by C-DPI or by FAM, while (still) under control of ATC.

- **Tower Update A-DPI**

The Tower Update A-DPI provides an optional means for the TWR to:

A. Request a CTOT extension

B. Request a new CTOT (search for first available CTOT)

C. Request de-suspension for a flight that was suspended by a C-DPI message or by FAM, while (still) under control of ATC.

Concretely, the Tower Update A-DPI message is an A-DPI message that contains the value “TWRUPDATE” in a separate depstatus-field. This depstatus-value is an indication for ETFMS to apply a specific processing compared to a classical A-DPI message.

The Tower Update A-DPI is manually triggered by the TWR controller.

This message will be automatically processed by ETFMS and no manual intervention from NMOC is required.

Use Case A → Request a CTOT extension

This is the main intended use of the feature. The TWR controller from A-CDM or Advanced ATC Tower Airports can manually trigger a Tower Update A-DPI in case of an operational/technical problem while taxiing.

Requesting a CTOT extension via Tower Update A-DPI complements the other available means to achieve this, i.e. via e-Helpdesk or phone call.

If certain conditions are met, a 10 min CTOT extension will be granted automatically (SRM with new CTOT = CTOT + 10). A limit of maximum 3 CTOT extensions/rolling hour applies per airport. If this limit is exceeded, the next CTOT extensions requests via A-DPI TWRUPDATE messages, will result in a search for the first available CTOT. This CTOT will be sent as response.

A 10 min automatic CTOT extension is granted **only** after network impact assessment, if ETFMS finds at least one available slot within the next 20 min from the current CTOT. Otherwise, the CTOT extension request will result in a search for a new CTOT (first available CTOT), and in that case this will be the CTOT sent as response. Note that the likelihood of this condition to be met is limited.

When the CTOT extension was granted automatically, the letter “a” will be visible in the Slot List.

The request is rejected if the updated flight trajectory would violate IFPS restricted airspace.

Use Case B → Request a new CTOT (search for first available CTOT)

The system will automatically perform a network impact assessment which may result in a SRM, SLC or FLS when any of the conditions below is met:

- A 10 min CTOT extension pushes the flight inside a zero-rate, insufficient RVR or XCD regulation period
- The STW is extended and TTOT > extended STW
- The CTOT has already been extended (either in response to previous A-DPI TWRUPDATE or to a request handled manually by NMOC).
- The limit of 3 granted CTOT extensions in the past rolling hour, per airport, has been reached.
- The Tower Update A-DPI provision time is after the end of the STW (including the last minute of the STW).
- The TTOT from Tower Update A-DPI > CTOT + 20 min.

In the use case B, when a network impact assessment is triggered based on a Tower Update A-DPI, the flight is not marked in the Flight/Slot List.

Note: specific symbol marking the flight in the slot list may be planned for a future NM release.

Use Case C → Request de-suspension for a flight that was suspended by a C-DPI message or by FAM, while (still) under control of ATC.

TWRs at Advanced ATC TWR airports, and exceptionally at A-CDM airports, have the option to provide a Tower Update A-DPI in order to request the de-suspension of a flight that was previously suspended by the airport via a C-DPI message or by FAM. In this case, the flight may receive a SAM, DES or FLS.

Example: A flight is suspended by FAM after off-block. TWR triggers A-DPI TWRUDATE to request de-suspension. ETFMS receives the message and

performs a network impact assessment automatically, using TTOT from A-DPI TWRUPDATE as min CTOT (processed in the same way as e.g. a DLA message that is sent when flight is FAM suspended). The result can be SAM, DES, FLS.

Please refer to section 5.7.4. FLS triggered by DPI-transmitting aerodromes of the ATFCM Operations Manual for more details.

C-DPI (Cancel-DPI)

If the turnaround process is interrupted, the airport will inform the NMOC about the event with a C-DPI message.

As a result of the reception of a C-DPI message the ETFMS will suspend the flight with the comment: suspended by departure airport. Any update to the TOBT / EOBT or an A-DPI TWRUPDATE will de-suspend the flight.

A C-DPI may be sent and accepted at any time, even if it is the first DPI message. A C-DPI will also be accepted after a DLA message has been sent. After a C-DPI, an E-DPI, a T-DPI-t, a T-DPI-s, an A-DPI TWRUPDATE or a new EOBT from a DLA/CHG message will be accepted by the ETFMS and will de-suspend the flight. An A-DPI sent after a C-DPI will be rejected.

A C-DPI with reason UNDOADPI can be used to de-activate a flight which was wrongly activated and ETFMS will not suspend the flight. A wrong activation can occur when the pushback clearance event has been input by TWR for the wrong flight.

13.5.3 Suspended Flights

In case of a suspension due to IFPS revalidation, the Estimated Flight Model (FTFM) will not be updated but the flight remains suspended. An FLS is not re-sent. Any type of DPI messages will be rejected with the error ‘FLIGHT SUSPENDED DUE TO IFPS REVALIDATION’.

At a reception of any DPI message, with one exception for A-DPI, the ETFMS will re-assess suspension conditions and regulations crossed:

- If the flight remains suspended, the FLS message is re-sent.
- If the flight becomes de-suspended, then a DES or SAM message is sent.

13.5.4 CDM STATUS in the Flight List

A CDM status indicator is shown in the flight list. The first letter indicates:

(blank) Not departing from a CDM airport

C	Departing from a CDM airport (expecting DPI)
p	Predicted (P-DPI)
e	Estimated (E-DPI)
t	Targeted (T-DPI-t)
s	Pre-sequenced (T-DPI-s)

a Actual off-block (A-DPI)

13.5.5 Message Summary for ANI airports

Message	P-DPI	E-DPI	T-DPI-t	T-DPI-s	A-DPI	C-DPI
Timing from OBT	From FPL in ETFMS until EOBT – 3 hrs (first E-DPI)	From EOBT - 3 hrs	From EOBT - 2 hrs	From TOBT – 40 min	At AOBT	At any time after FPL in ETFMS
Received Data (some of these fields are optional)	TT SID Turnaround TTOT Earliest TTOT SOBT	TT SID Turnaround TTOT Earliest TTOT TOBT SOBT	TT SID Turnaround TTOT Earliest TTOT Consolidated TTOT TOBT TSAT	TT SID Turnaround TTOT Earliest TTOT Consolidated TTOT TOBT TSAT	TT SID TTOT AOBT	
Derived Data	CDM status = p	CDM status = e	CDM status = t	CDM status = s	CDM status = a	CDM status = e
Effect on ETFMS →						
FTFM	Updated with turnaround TTOT	Same effect	Same effect	Same effect	No impact	Recomputed based on EOBT and REA
RTFM	Updated in accordance with Network assessment outcome	Same effect	Same effect	Same effect	No impact	Deleted
CTFM	**For Non Regulated Flight** When earliest TTOT inside or after DTW ⇨ CTFM created based on earliest TTOT	**For Non Regulated Flight** Same effect	**For Non Regulated Flight** Same effect	**For Non Regulated Flight** Same effect	**For Non Regulated Flight** ⇨ CTFM created based on TTOT	Deleted
	For Regulated Flight	**For Regulated Flight**	**For Regulated Flight**	**For Regulated Flight**	**For Non Regulated Flight**	

	Earliest TTOT = No slot before When earliest TTOT inside STW ⇨ CTFM created based on earliest TTOT	Same effect	Same effect + CTFM updated based on consolidated TTOT Consolidated TTOT ≠ No slot before	Same effect as for T-DPI- + When earliest TTOT before or inside STW ⇨ Flight gets REA status (if clock time > TOBT -5)	⇨ CTFM created based on TTOT **For Regulated Flight** CTOT frozen When TTOT before STW ⇨ CTFM created based on STW_LowerBound When TTOT inside or after STW CTFM created based on TTOT	
Network assessment triggers	When FTFM updated When earliest TTOT outside DTW **Before SIT1** When earliest TTOT after CTOT	Same	When FTFM updated When earliest TTOT outside DTW **After SIT1** When earliest TTOT after STW	Same	Never	Never
Other					tac activated	Flight suspended (FLS)
Outcome of Network assessment When Flight non-regulated / de-suspended: ⇨ CTFM re / computed or removed ⇨ SLC / DES sent appropriately When Flight assessed regulated: ⇨ SAM / SRM sent only after SIT1 ⇨ CTOT improvement possible When Flight assessed suspended: ⇨ FLS sent						

13.5.6 Message Summary for A-CDM and for Advanced ATC TWR airports

Message	E-DPI	T-DPI-t	T-DPI-s	A-DPI	C-DPI
Timing from OBT	From EOBT - 3 hrs	From EOBT - 2 hrs	From TOBT – 40 min	At AOBT	At any time (after FPL in ETFMS)

Received from	A-CDM or Adv ATC TWR	A-CDM	A-CDM	A-CDM or Adv ATC TWR	A-CDM or Adv ATC TWR
Received Data (some of these fields are optional)	TT SID TTOT SOBT	TT SID TTOT TOBT TSAT	TT SID TTOT TOBT TSAT	TT SID TTOT AOBT	
Derived Data	CDM status = e	CDM status = t	CDM status = s	CDM status = a	CDM status = e
Effect on ETFMS ⇨					
FTFM	Updated with TTOT	Updated with TTOT	**For Regulated Flight** Updated when TTOT before ETOT ⇨ Same processing as REA	No impact	Recomputed
RTFM	Updated in accordance with Network assessment outcome	Same effect	Same effect	No impact	Deleted
CTFM	No impact	No impact	**For Non regulated Flight** ⇨ CTFM is always created **For Regulated Flight** When TTOT after ETOT and before STW ⇨ CTFM deleted ⇨ TTOT = No slot before ⇨ CTOT improvement possible When TTOT inside STW ⇨ CTFM created ⇨ No CTOT improvement	**For Non Regulated Flight** ⇨ CTFM created based on TTOT **For Regulated Flight** CTOT frozen When TTOT before STW ⇨ CTFM created based on STW_LowerBound When TTOT inside or after STW ⇨ CTFM created based on TTOT	Deleted
Network assessment triggers	When FTFM updated	When FTFM updated	**For Non regulated Flight** When TTOT outside DTW **For regulated Flight** When TTOT after STW	Never	Never
Other				tac activated	Flight suspended (FLS)

Outcome of Network assessment

When Flight non-regulated / de-suspended:

⇨ CTFM re / computed or removed

⇨ SLC / DES sent appropriately

When Flight assessed regulated:

⇨ SAM / SRM sent only after SIT1

⇨ CTOT improvement possible

When Flight assessed suspended:

⇨ FLS sent

For further details, refer to the DPI Implementation Guide and the Flight Progress Messages document.

13.6 Arrival Planning Information (API)

The purpose of the Arrival Planning Information (API) services is to provide NM with arrival flight data related updates. Such data is made available by Airports based upon their Airport Operational Database (AODB) or DCB tools or by FMPs/ATC using Arrival Management applications.

13.6.1 API Messages

There are 3 main types of API messages, the General-API, the Target Take Off-API (TTA-API) and the Target Time Over-API (TTO-API).

The General-API (G-API) is used to provide updated arrival flight information, updating NMOC's flight data. This info will be shared with NM's users such as ANSPs, AOs and Airports of Destination via the NMOC's Data sharing Services.

Standard Airports, Advanced ATC TWR airports, CDM Airports and ANI Airports can provide G-API messages. This requires upgrade of their systems and connection with NM Systems via NM B2B services.

The TTA-API and TTO-API are used to solve and avoid local DCB issues. The requests of Target Take Off or Target Time Over according to the local business needs will allow better arrival management. ANI Airports can provide TTA-API and TTO-API as optional messages.

13.6.2 API Types

G-API (General-API)

The General-API allows an airport to inform NM and ETFMS about known/available pertinent local flight arrival planning and actual data.

The first G-API shall be sent at any time after the flight plan has been filed but not earlier than EOBT-48hrs.

G-API are accepted until the closure of the related FPL in IFPS: such a closure shall be the time at which the flight plan details become unavailable for any further associated messages, and the flight details are no longer available to external users of the IFPS. The closure time of a flight shall either be upon successful processing of an arrival message (ARR/IARR) in the IFPS, 3 hours (system parameter) after the flight is terminated in the ETFMS or 8 hours (system parameter) after the total Estimated Elapsed Time (EET) of that flight; whichever comes first.

ETFMS behaviour in response to G-API message:

The landing information from G-API is used by ETFMS to update the CTFM profile only when it represents an Actual Landing Time.

The arrival Procedure (STAR) information updates the FTFM, RTFM and the CTFM if the flight is not yet airborne. If the flight is airborne, only the CTFM is updated.

An arrival Procedure update results in an ATFCM Impact Assessment, i.e. may result in a CTOT update, a flight suspension or a slot cancellation (SLC).

The arrival Procedure received via a G-API can only be modified via another API. Arrival Procedure updates derived from an ENV runway update or received via a CHG message containing a STAR are ignored after reception of an API containing an arrival Procedure.

The arrival Terminal information will be used in the application of ATFCM measures, i.e. to select flights for regulation or exemption of a regulation dependent on the arrival Terminal.

The arrival Taxi Time updates the FTFM, RTFM and the CTFM if the flight is not yet airborne. If the flight is airborne, only the CTFM is updated.

TTA-API (Target Take Off -API)

In arrival capacity constrained situations, the TTA-API allows the collaborative group of Airport to submit Target Time of arrival requests to the NMOC. It is expected that the collaborative group of Airport stakeholders consists of Flow Management Position (FMP), ATC/approach and Airport Operations, possibly including the Aircraft Operators to allow for inclusion of Aircraft Operators prioritisation (UDPP) in the TTA process.

This service is used for flights still on the ground in the ECAC area to provide NM with the

preferred/requested Target Times of arrival in the corresponding arrival regulation according to the local operational needs.

The TTA-API message can be sent by FMP that use DCB applications or enhanced arrival management systems or ANI Airports that have implemented a DCB process.

ETFMS behaviour in response to TTA-API message:

If the request is granted a CTOT will be issued by NM at SIT1.

If the request is “not granted” then the TTA-API may be ignored and/or a CTOT that does not correspond to the requested TTA may be granted.

The CTOT will correspond to the flight’s most penalising regulation (MPR) as determined by ETFMS.

TTO-API (Target Time Over-API)

The target Time Over is the output of a DCB process, an arrival-sequencing tool, etc. and it allows the ANI Airport/FMP/ATC-approach to communicate the agreed arrival sequence (with AO/pilot) to NM/ETFMS so that NMOC also has an updated traffic (load) picture.

The target Time Over should be provided for airborne flights. It can also be provided before take-off if the flight departs from outside of the NM/ATFM Area

A TTO-API message update for a change of target Time Over shall depend on the status of the inbound flight. It shall be sent for any change of the target Time Over of:

Flight Status of Inbound Flight	Update Requirement
Not yet airborne	>= 15 min
Airborne	>= 5 min

ETFMS behaviour in response to TTO-API message:

The TTO-API is used by ETFMS to create or update the CTFM/Traffic Load with the planned time of arrival at the coordination Fix (see API Implementation Guide for details). The Take Off-Time does not change but the speed of the flight used in the CTFM is adjusted to align with the planned time at the coordination Fix . Note that the flight status remains unchanged (does e.g. not become tact_activated).

The use of provided target Time Over is re-evaluated at reception of other flight updates such as DLA, CHG, DPI, regulation updates, FAM, meteo updates, FSA, CPR,… . It will be re-applied if it remains “realistic”, i.e. the speed is realistic. It will automatically be reset when it no longer appears to be realistic

In case a TTO-API is removed:

a) If flight is not yet TACT_ACTIVATED or ATC_ACTIVATED, the CTFM is removed (If it was only based upon the target Time Over).

b) If flight = TACT_ACTIVATED or ATC_ACTIVATED , the target Time Over is removed and CTFM is calculated in accordance with standard rules.

13.6.3 API Message Summary

Message	G-API	TTA-API	TTO-API
Timing from OBT	Since FPL in ETFMS until FPL closed in IFPS	Since FPL in ETFMS and after the associated ATFCM regulation has been activated in ETFMS until OBT – TRS	Since OBT – 40 min until flight landed
Received from	ANI, or Adv ATC TWR	ANI or ANSP	ANI or ANSP
Received Data (some of these fields are optional)	ELDT/ALDT STAR SIBT TT Arrival Terminal	STAR TTO Coordination Fix regulationId	STAR TTO Coordination Fix
Derived Data	API status = GENERAL	API status = TAKEOFF	API status = TIMEOVER

FTFM	Updated with TT and STAR if not yet airborne	No impact	No impact
RTFM	Updated in accordance with Network assessment outcome	Updated in accordance with Network assessment outcome	No impact
CTFM	Updated with TT and STAR if airborne. Updated with ALDT if it could not be derived from other sources, e.g. CPR	May be updated based on TTO	Updated based on TTO
Other			

For further details, refer to the API Implementation Guide.

14 ANNEX C: SLOT ALLOCATION PROCESS

The slot allocation procedures detailed below are those applicable to the NM ETFMS. They are applied to all flights subject to ATFCM slot allocation departing from within the ATFCM area or from within the ATFCM Adjacent area and entering the ATFCM area.

14.1 Description of the Computer Assisted Slot Allocation (CASA) System

The CASA system is largely automatic and centralised, and functions from an AO's point of view in passive mode. In other words, the act of filing a flight plan effectively constitutes a request for a slot.

After coordination with the FMP, the NM decides to activate regulations in those locations where it is necessary. ETFMS regulations include the start and the end times, the description of the location, the entry rate and some other parameters. For each regulated point, area or airport, CASA builds and manages a list of slots i.e. the Slot List. A regulation may contain one or more sub-periods with specific rate and conditions. CASA uses these elements to build an empty Slot List. For instance, a four hour long sub-period associated with a basic rate of 28 flights per hour, would result in a Slot List made up of 112 slots separated from one another by approximately 2 minutes.

In accordance with the CASA prioritization algorithm, which aims at minimizing the global delay, the system will place the flights in the slots.

On this basis, the Take-Off Time (TOT) for the flight is calculated. This information, the Calculated Take-Off Time (CTOT), is transmitted to the AO concerned and to the control tower at the aerodrome of departure at EOBT – 2 hours. The slot is issued at EOBT – 2 hours through a dedicated message, the Slot Allocation Message (SAM), and the slot status becomes Allocated.

The slot list of the NM operators displays a column containing the priority factor of each flight. This indicates to the NM operator which flights are likely to benefit from a higher priority than the basic "first come first serve" principle.

14.2 Description of the Slot Allocation Process

14.2.1 Pre-allocation Stage

When the regulation is activated, CASA starts to receive flight data, based on Filed Flight Plans (**FPL**), as available. Each flight concerned by the regulation is given a provisional slot based on the order of their Estimated Time Over (**ETO**) the restricted location.

This initial reservation is internal to the ETFMS system and is subject to amendment.

Due to the constant recalculation of the Slot Allocation List (SAL) as new flight plans arrive, the provisional slot is very likely to be changed.

- When CASA receives new flight data, it pre-allocates the flights to the free or pre-allocated slot closest to the time resulting from the CASA prioritization algorithm If flights are competing for the same free or pre-allocated slot, the flight with the highest priority factor will prevail.

14.2.2 Pending Rate

In order to reduce the number of large delays for late updaters the pending rate will be kept entirely for flights that are modified after the SAM is issued with messages such as FCM, DLA or CHG messages. Late filers will not be considered for allocation of pending slots.

Pending slots are not used during activation of a regulation, taxi time change, deep rectification. A pending slot with an earlier time will not be allocated to a flight from a later slot, i.e. a flight will not be improved to an earlier slot by being a late updater but will be allocated the next available later slot. Pending slots are turned into normal slots 2h15 before Slot Reference Time.

The default number of pending slots should be 5% of the total rate, when the rate is greater or equal 20 per hour regardless of the Regulation duration. The table below gives the standard rate/pending rate conversion:

Global rate value	Normal	Pending
0 to 19	19	0
20 to 29	19 to 28	1
30 to 49	28 to 47	2
50 to 69	47 to 66	3
70 to 89	66 to 85	4

14.2.3 Slot Amendment Process

When CASA receives the flight data for the cancellation of a flight, this may improve the slots given to other flights. The slot amendment procedure aims to take into account the new slots made available. It applies only to pre-allocated flights. Therefore, it is an essential requirement, with beneficial interest for AOs, to **cancel as early as possible** those flight plans which will **no longer operate.**

14.2.4 Allocation Stage

At a fixed time before the Estimated Off-Block Time (**EOBT**) of each pre-allocated flight, called Slot Issue Time 1 (**SIT1**), the slot is allocated to the flight and a Slot Allocation Message (**SAM**) is sent to the AOs and ATC.

An allocated slot cannot be taken by another flight, unless the regulation is deep rectified and the CTOT has not been forced or as an effect of the true revision process (see below). However, an AO should update its EOBT, if it is thought that the flight will not be able to comply. Moreover, the slot allocated to a flight may be improved by the true revision process.

14.2.5 Window Width

To provide a consistent approach and improve network stability a Window Width table has been established. These values are derived from knowledge of CASA behaviour and were previously published as “Best practices”.

Some rationales about CASA behaviour:

- A smaller Window Width will ensure a better spreading between flights being affected by **small delays**. This should help to smooth occupancy peaks, . The table below allows more flexibility to staff and provide more stability.
- The proposed WW values will create more small delays (flights affected by delays lower or equal to half of the WW). Nevertheless, the alternative of reducing the rate would create higher delays.

Note:

The following values for the window width are valid for initial implementation and can be modified by NMOC for Operational reasons or following an operationally justifiable request from an FMP.

Rate per hour	Window width
1-2	**30 minutes**
3-6	**20 minutes**
7	**18 minutes**
8	**16 minutes**
9	**14 minutes**
10	**12 minutes**
11	**12 minutes**
12 to 29	**10 minutes**
30 and above	**6 minutes**

14.2.6 Delay Confirmation Threshold

Flights that are crossing exceptional regulations like strikes or scenarios (XCD/FCM) are suspended and aircraft operators receive a flight suspension message (FLS). As a consequence, aircraft operators have to confirm (send a FCM) to operate.

The use of Delay Confirmation Threshold in the Regulation Editor will then behave as follows:

- Flights with delays equal or below threshold value will be allocated a slot;
- Flights with delays above the delay threshold will receive the following new type of FLS message at SIT1 (EOBT-2 hours) and not before:
  - The FLS message includes the delay information in the form of Provisional Take-Off Time (PTOT);
  - The PTOT is booked during a “respond by” time period of 20 minutes (RESPBY);
  - Flights that confirm during the respond by time period will be allocated a slot (PTOT becomes CTOT);
  - Flights that do not confirm during the respond by time period lose the booking and remain suspended. Consequently, those slots are released for other flights.

The delay threshold value will be automatically added to the ANM TV Description field as: DELAY THRESHOLD XX MIN, where XX is the value introduced. If no delay threshold value is entered, such message will not be displayed.

14.2.7 Late Reception of Slot Messages

There are many mechanisms within the NM systems to prevent, in normal circumstances, the late transmission of a slot, or update to a slot. Nevertheless, there are four conditions that can cause the late reception of a slot time:

Late flight plan submission / update

The flight plan is filed or modified (reception of a FPL / DLA / CHG message by the ATFCM system) shortly before the EOBT. If needed, a SAM / SRM is sent immediately. Of course, in this case the SAM / SRM is also sent later than SIT1.

Slot Change Control Display

When a regulation is created, deep rectified and/or cancelled, the Slot Change Control Display is presented to the flow manager.

The Slot Change Parameters Display gives the flow manager possibility to decide:

- Which flights with ETO/CTO inside the regulation period are potentially affected by the action
- Which is the improvement/deterioration potentially given to the flights
- Which is the flight status needed to get an improvement.

For flights having already received a slot, a SRM may be sent. However, a SRM is not sent for flights that are close to their off block time. The parameter TRS (Time to Remove from Sequence), related to each aerodrome, prevent it from happening. The values of the TRS for each aerodrome are available via the NM Client Application in the Environment / Aerodrome Details menu.

For flights that become regulated as a result of the new or modified regulation, a SAM is sent. There is no mechanism to forbid sending a SAM up to the last minute, however, for flights very close to their EOBT, the SAM will not indicate a delay i.e. it will indicate an 'on time' slot. The main reason for sending the SAM is to inform the Tower and the pilot that the flight has become regulated. If the flight preparation is on schedule, it should not be unduly affected. If the flight preparation is late, then the normal procedure for flights not able to cope with their slots must be used.

In case of cancellation of a regulation, a SLC may be sent. This can happen any time up to the CTOT. The main reason is to inform the Tower and the pilot that the flight is no longer regulated.

Manual intervention

The NMOC Air Traffic Flow and Capacity Controller manually allocates another slot to a given flight causing a SRM to be sent. This normally only happens following an agreement between the parties. See relevant manual actions.

Transmission delay

The message is sent early enough, but due to transmission problems it arrives late. The occurrence is limited but it may happen.

14.2.8 Combined Flow Measures for One Flight

The general principle is that a flight which is subject to several CASA regulations is given the delay of the most penalising regulation and is forced with that delay into all other regulations.

14.3 True Revision Process

This is the automatic mechanism that routinely attempts to improve the slot of allocated flights every minute; for a given flight, the true revision process takes place after the SAM has been issued until a time parameter before the CTOT. This parameter is linked to the Aerodrome of Departure (**ADEP**) and its associated parameter values.

14.4 Readiness Status of a Flight

14.4.1 RFI and SWM Status

All flight plans are by default in Ready for Improvement (RFI) status. In case an improvement is possible, flights in status RFI will immediately receive a Slot Revision Message (**SRM**).

This default status may be changed to **SWM** status for all flights upon request, if an AO wishes to receive proposal of improvement via a Slot Improvement Proposal (**SIP**).

14.4.2 RFI Message

The AO may change the status of a particular flight from SWM to RFI by sending the **RFI** message. It will immediately receive a Slot Revision Message (**SRM**) in case of improvement.

14.4.3 Slot Improvement Proposal Message

The AO may change the status of a particular flight from **RFI** to **SWM** by sending the SIP Wanted Message (**SWM**). In case of possible improvement, the flight will receive a Slot Improvement Proposal (**SIP**) instead of SRM.

The AO may accept or refuse the new CTOT via a Slot Proposal Acceptance (**SPA**) message or a Slot Rejection (**SRJ**) message.

After a fixed time (**SIP** time out), if no response has been received from the AO, the proposal is cancelled and the slot that was booked for that flight, is released.

AOs are requested to use the **SRJ** message if they do not wish to take advantage of the **SIP**. This is designed to release the slot so that it can be offered to another flight.

15 ANNEX D: TRAFFIC VOLUMES

A Traffic Volume (TFV) is an important element in the environment data structure, allowing the selection of a specific volume of air traffic in order to compare the traffic load and the available capacity during the activation period.

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

- monitoring,
- applying ATFCM measures.

Information concerning the TFVs are for most of them, semi-dynamic data. It is therefore possible in real time (through the Live database), to create a new TFV, provided the reference location exists, but not to modify or delete it. Semi-dynamic data may be modified or deleted only in the Load database. But, they may be created in the LIVE database.

The load database is the one which is prepared for the next AIRAC cycle.

The live database is the one which is currently used. It contains the actual AIRAC cycle data.

15.1 Basic Definitions

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).

When aerodromes and sets of aerodromes are used as reference location they shall always be qualified as being either:

- Arrivals (Category: ‘A’): only arriving traffic will be considered in the TV.
- Departures (Category: ‘D’): only departing traffic will be considered in the TV.
- Global (Category: ‘G’): both arriving and departing traffic will be considered in the TV.

An airspace or a significant point used as reference location shall always be qualified as being Global (Category ‘G’).

Airspace volumes describe the ATC structure, which is formed by the following elements:

- Elementary sectors (ES),
- Collapsed sectors (CS),
- ATC unit airspace (AUA),
- Cluster,
- RSA,
- Flight information region (FIR),
- Region (REG).

FIR and REG cannot be used as a reference location

Significant points (Navigation Aid (NVA), Waypoint (PWP), Reference Points (RFP) and GEO Points (GEO)) are global but additional to the existing information a flight level band must be added.

The TFV activation period is:

Automatic: for TFV with a reference location formed of an ES or a CS, derived from the sector configuration activation table.

They are qualified as **monitorable** (MO).

Manual: for all other TFVs it must be specified in the TFV activation period table.

TFVs may be global (all traffic) or with flows.

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, for example 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.

15.2 Flows

Flows on TFVs have the purpose of specifying the flights which are subject or not to ATFCM measures.

A traffic volume 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 consists of **upstream** element(s) (coming FROM), or **downstream** element(s) (going TO), 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 elements, with a minimum of 1 upstream or downstream element. The reference location has to be between the upstream and the downstream locations.

When a reference location is 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) and for an aerodrome Estimated time of arrival (ETA) or estimated time of departure (ETD) respectively.

The ETFMS differentiates between the upstream and the downstream portion comparing times. When a time is **before** the reference location time then it is considered upstream. When it is **after** it is considered downstream.

As soon as a required flow is specified, the **List of Flows** should be checked first to see whether that flow already exists.

If the flow does not exist, a special form **Create Flow** has to be used. When defining a new flow, the following format must be adhered to:

Format: From > To (‘>’ being the location). All elements to the left of the symbol are upstream and all elements to the right are downstream. From and To represent flow elements and they can be either:

A Set of Aerodromes (AZ)

Example: ED> OR ED&>

& is used to indicate a set of aerodromes larger than the one indicated.

An Airspace Volume (AS)

Elementary sectors (ES), collapsed sectors (CS), ATC unit airspace (AUA), flight information region (FIR) and region (REG)

Example: LOVV@> the sign @ after the name of the FIR indicate that the flights are entering this airspace.

An Aerodrome (AD):

Example: EDDF>

A Significant Point (SP):

Example: BNE>

15.2.1 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 and therefore a reference location with associated flow(s) will normally, but not always, be linked to a global traffic volume (i.e. without specified flow).

15.2.2 Autoshow Flows

An Autoshow flow behaves like an associated flow. Such a flow will be shown automatically in any TFV when ETFMS detects at least one matching flight. In particular:

- departing flights for which a T-DPI-s has been processed (‘CDMS’ flow);
- departing flights for which an A-DPI has been processed (‘CDMA’ flow);
- flights subject to delay threshold (‘DTM’ flow).

15.2.3 Flows Defined Directly in the ETFMS

It is possible to for the NM tactical team to create ETFMS flows that may be used directly in count and flight list queries. This enables the users to see which flights are going via some points / airspaces / aerodromes / set-of-aerodromes before (or without) defining a traffic volume for this purpose.

15.2.4 Flows Defined with Communication, Navigation and Surveillance (CNS) Conditions

It is possible to create flows with defined Communication, Navigation and Surveillance (CNS) conditions. These flows may then be used in TFVs, which can be regulated according to applicable operational procedures.

15.3 Set of Aerodromes

To create a flow it may be necessary to use a set of aerodromes as a flow element. Already existing sets of aerodromes are detailed in the **List of Sets of Aerodromes** (max. 2000).

To create a new set of aerodromes it is necessary to provide the following information (via a DMR):

15.3.1 Set of Aerodromes Identifier

A set of aerodromes identifier (maximum 8 characters) must be unique within all Sets of Aerodromes (including IFPS Aerodrome Groups) and is normally formed by the common letters of the ICAO location indicators. It can also contain a third letter indicating an FIR within the State, a digit indicating a smaller grouping within an FIR, etc., but the only fixed rule is to make it as short as possible in order to permit its use in the flow description;

15.3.2 Set of Aerodromes Name

A set of aerodromes name (maximum 20 characters) is the operational name or a short description of the set of aerodromes;

15.3.3 Set of Aerodromes Description

It is formed by the list of all aerodromes inside the set. They are described using the ICAO location indicators. Wild cards can also be used. A set of aerodromes can contain maximum **150** aerodromes and **30** wild cards.

A **wild card** is replacing a single character or a group of characters in an aerodrome identification. It permits to group several aerodromes with common letter(s) in the ICAO location indicator. e.g. all German aerodromes can be simplified to ED??+ET??

15.4 Individual Items Description

15.4.1 Traffic Volume Set Id

The traffic volume set id (max. 8 alphanumeric characters) is the name of the set to which the traffic volume must be attached.

When creating a new TFV Set always use the four letters of ICAO location indicators in the beginning of the name.

Example: LSAZFMP.

The number of traffic volumes attached to a traffic volume set is limited to **200**.

15.4.2 Reference Location Identifier

The reference location identifier (max. 12 characters) is the identification of a significant point, aerodrome, set of aerodromes or airspace volume to which the traffic volume concerned is related.

For an aerodrome indicate arrival, departure or global.

15.4.3 Traffic Volume Identifier

The traffic volume identifier (max. 8 alphanumeric characters) should clearly indicate the location and purpose of the traffic volume. Individual characters have the following meaning:

1. The reference location is an airspace volume

An indicator must be added to the airspace volume to indicate that the TFV is not a global one. This indicator may be placed either at the end either between the ACC name and the sector name.

Example: LFFTE1, EGT1CLW

2. The reference location is an aerodrome

The first four letters indicate the aerodrome by the ICAO location indicator; the next letters indicate arrival, departure, global or any other special conditions (fog, special event…).

A qualifier may be added as for the airspace volume either at the end or between the aerodrome name and the next letters.

Example: LFPOARR1 EHAM1ARR

3. Set of aerodromes

The characters describing the set of aerodromes identifier may range from two to eight characters. If the set of aerodromes has to be used as a reference location it cannot contain more than ten aerodromes and wild cards cannot be used.

Example: LFP

4. Significant point

The characters are dedicated to describe the significant point name and supplementary data, if applicable.

Example: MOPUG1I

15.4.4 Traffic Volume Name

The **name** attribute of a Traffic Volume may be used to describe the Traffic Volume using plain language. The maximum length of the **Traffic Volume name** is 500 characters. There may be maximum 15 lines, and each line may contain maximum 60 characters.

The allowed characters are: 0-9 A-Z , . : = ' + -) (/ Blank ‘ ?

It is not possible to insert a forbidden character (line shows in red).

This limitation is to enable transmission of this text via AFTN (as part of the ANM) without any alteration.

15.4.5 Skip In and Skip Out parameters

Skip In parameter is a set time that ETFMS and PREDICT take into account to consider whether a flight has to be counted in the concerned TFV. If the time between entry and exit is less than the 'Skip In' time for the concerned TFV, then the flight is not counted in that TFV. IFPS does not take this parameter into account.

Example: if the 'Skip In' is set to 1 minute, a flight profile needs to be for at least 1 minute inside the TFV for this flight to be counted inside it.

Skip Out parameter is a set time that ETFMS and PREDICT take into account to consider whether a flight crossing the same TFV twice has to be counted only once or twice in that TFV. If the time between exit and re-entry is less than the 'Skip Out' time for the concerned TFV, then the flight is only counted once. IFPS does not take this parameter into account.

Example: if the 'Skip Out' is set to 15 minutes, a flight profile needs to have at least 15 minutes between the exit of the airspace and the re-entry into the same airspace to be counted inside it for a second time.

Individual 'Skip In' and 'Skip Out' parameter values may be specified per TFV. If they are not specified, by default the TFV inherits the 'Skip In' and 'Skip Out' values from its Airspace Reference Location. Airspace 'Skip In' and 'Skip Out' values are only used as default values for a TFV.

The 'Skip In' and 'Skip Out' values are specified in minutes and seconds.

'Skip In' maximum value is 09MIN00SEC.

'Skip Out' maximum value is 59MIN59SEC.

15.5 Flows Inside the TFV (Maximum 50 Flows)

In the first column of the form **Traffic Volume Description** give the list of flows required. In the second column of the form indicate if the flows are included (IN), excluded (EX), exempted (EM) or included and exempted (IE).

Each flow may be defined as:

Included (IN): flow(s) will be subject to counts and possible ATFCM measures.

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.

This exclusion can be used when no flow is defined in the TFV, (i.e. everybody is concerned), and it is necessary to exclude a particular flow.

When it is necessary to exclude a flow which is part of flows already included.

Exempted (EM): flow(s) will be subject to counts, but not to ATFCM measures. 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 rerouteing.

This exemption can be used when no flow is defined in the TFV (i.e. everybody is concerned) and it is necessary to exempt a particular flow.

When it is necessary to exempt a flow part (sub-flow) of flows already included.

Included / Exempted (IE): flow(s) will be subject to counts but not to ATFCM measures.

This inclusion / exemption can be used when at least one flow has been defined as Included (IN) in the TFV before **and**

When the included / exempted (IE) flow is not part (sub-flow) of the flow(s) already defined as included (IN) in the TFV.

15.6 Monitorable TFV (MO)

The MO information indicates the TFV which shall be monitored by the NM pre-tactical and tactical teams and FMPs when the sector is active in a sector configuration. Several TFVs may be monitorable. The MO TFV may be non-MO and vice-versa on live data.

15.6.1 ANM Traffic Volume Description Field

The ATFM Notification Message (ANM) contains the list of ATFCM measures for the following day and it provides, in addition to other details, the description of each location where an ATFCM measure is to be applied. This is done through the 'ANM TFV description' field which is part of the information stored in the CACD for each traffic volume. The term ANM TFV description is used mainly in the regulation editor screen of the ETFMS; in the NM CACD terminology the field ANM TFV description is called 'Traffic Volume Name'.

System limitations

The following most important system limitations are:

- The NM CACD limitation for the TFV Name / ANM TFV Description is 40 characters. Pre-tactical and Tactical operations can manually input 90 characters;
- The NM CACD limitation for the TFV Note / ANM Remark is 250 characters. Pre-tactical and Tactical operations are reduced to 128 characters;
- To take the most complex case as an example, when a TFV is created for a scenario, it is necessary to describe:
  - The city pairs involved in the route / profile change;
  - The forbidden route / sector;
  - The route / profile advice that AOs should follow when they re-file their FPL;
  - All this needs to be described in plain language to enable a clear understanding of the scenario and its implications and requirements.
  - Once the description is created it must be stored so that when a Regulation is applied the appropriate Field is auto-filled with the correct information and this information is published via ANM to all our customers.

15.7 Allocating Delay to Aerodromes

Certain traffic volumes with reference locations based on airspaces are designed for airfield restriction purposes (protected location). These traffic volumes need to report their delay characteristics as airfield, rather than en-route, to improve statistics.

An indication of the change of delay attribution is auto-populated into the regulation editor when one of these traffic volumes is entered. The regulation cause is reflected in the SAM and SRM messages by value OA 83 in the REGCAUSE field. It is not possible to set up or change the type of delay attribution from the default value from the regulation editor.

Traffic volumes with the following characteristics may have protected locations:

- An airspace reference location that includes within its geometrical dimensions the airport that should be protected.
- Contains a single included flow with the airport as a downstream flow element.
- May contain excluded flows
- May contain exempted flows but not included exempted flows.

15.8 Dynamic Update of Traffic Volume

Flows in a Traffic Volume can be dynamically updated. Flows can be deleted, added, or modified with immediate effect in tactical and pre-tactical operations.

This feature shall only be used to amend errors in TV Flows definition, if an error has been identified at the level of Flow (FM), Airspace Data (AD) or FMP staff. It is not intended to use the dynamic update of a traffic volume to process tactical requests for the purpose of flow management.

Live modification of TV Flows has an immediate effect in CACD/ ETFMS/ B2B systems and may produce very significant effects on regulations applied and the slot allocation mechanism.

16 ANNEX E: COUNTS

A count is the number of flights in a given location (airspace, point, traffic volume or aerodrome) during a specified time period. This may be the actual or expected number of flights.

Monitoring value

The monitoring value (MV) is the agreed number of flights accepted to enter into a reference location per rolling hour beyond which coordinated actions may be considered between the concerned parties in order to better balance the traffic load.

Rate

The rate is the number of flights managed in one regulation. The rate may be identical to the capacity if it is a global regulation; nevertheless rate and monitoring value are managed independently.

Overdelivery

An occurrence when the requested rate is exceeded by the actual number of aircraft that enter a regulated sector during the regulation period.

Overload

An occurrence when an air traffic controller reports that he / she has had to handle more traffic than expected, jeopardising safety.

16.1 Count Intervals

The ATFCM staff have the choice between a set of intervals. This interval choice is done in the query display (when choosing counts or counts on flow). The default interval is 'Hour every 20 minutes' and it means that, when asking for counts, the system is providing Hourly counts every 20 minutes (e.g. counts from 10h00 to 11h00, 10h20 to 11h20, etc.).

The available values are:

- Hour every 1 min
- Hour every 5 min
- Hour every 10 min
- Hour every 20 min
- 1 min
- 5 min
- 10 min
- 20 min
- 30 min
- Hour
- Day

Some of these counts are not providing hourly values and such values cannot be compared to an hourly monitoring value. To avoid confusion in the count display showing non-hourly values, the capacity column is filled in with **%%%** when the capacity cannot be compared to the values.

When, during an hourly period, there is more than 1 capacity value, the system will calculate the hourly capacity by computing the sum of the capacity of each capacity subperiod.

For instance, if the hourly Capacity of a TV is 60 until 0940 then become 30, the hourly capacity of the for the period 0900 till 1000 will be :

(60 X 40/60) +(30 X 20/60) = 40 + 10 = 50

Note: Due to a technical limitation in the system, the maximum number of intervals the system can compute is limited to 128, which is sufficient to compute a value every 20 minutes for that day and day +1. When the interval is such that more than 128 values should be shown, the period will be automatically reduced to the period covering the 128 values. When switching the interval value, the period is automatically reset to the biggest possible period.

16.2 Flights

In the ETFMS, the source of a flight plan may be an FPL or an AFP.

FPL and AFP-sourced data represents flight plans filed directly with the IFPS by the message originator.

16.3 Demand Counts

The demand is the count made in the ETFMS from the flight plan filed by the aircraft operator in any given location (airspace, point, traffic volume or aerodrome). The demand takes in account any flight plan modifications (CHG, DLA, and CNL) and take-off-time updates from CDM airports that are based upon airline updates such as E-DPI and T-DPI-t messages.

This demand is built from the Filed Tactical Flight Model (FTFM) of individual flights (See **Tactical Flight Models**).

Note: If requested by the user, demand counts can also include Predicted Flight Data (See **Predict Flight Data**). PFDs are removed 4 hours before IOBT or replaced when a matching Flight Plan is filed by the AO.

16.4 Regulated Demand Counts

The regulated demand shows the counts according to any regulations that have been implemented. If any flights are delayed, they are displayed in the regulated demand according to their new entry time. After reception of ATC data (e.g. FSA, CPR) in the ETFMS, the regulated demand does not change anymore, making the regulated demand unsuitable for monitoring purposes.

The Tactical Flight Model used in this case is the Regulated Tactical Flight Model (RTFM) for regulated flights and the FTFM for those flights that are not regulated.

Note: If the regulation captures a PFD, the PFD will receive a slot based on the ETO and an RTFM will be created. However, when a filed Flight Plan and a PFD compete for the same slot within a regulation, the filed Flight Plan will always take priority.

16.5 Actual Counts

The actual counts (shown in the ETFMS as ‘Actual’) show the number of flights, which are either:

- ATC: flights (currently airborne or landed) for which an airborne message has ATC activated the flight (e.g. FSA, CPR).
- TAC: TACT activated or landed flights for which no airborne message was received and that are departing from an aerodrome, or first entering the NM area via an airspace, that does not systematically cause FSAs to be sent to the NM. In addition, flights for which NM has received take-off time updates from CDM airports and Advanced ATC TWR airports which are based upon information from ATC or off-blocks (A-DPI), will also be displayed as TACT activated.
- FSA: TACT activated or landed flights for which no airborne message was received and that are departing from an aerodrome, or first entering the NM area via an airspace, that systematically causes FSAs to be sent to the NM.

These 3 columns (ATC, TAC and FSA) are displayed next to the ACT column to show how many flights are established as active (ATC), those flights that cannot be guaranteed as active (TAC), and those flights for which there is a high probability of becoming active (FSA).

The reference Tactical Flight Model from which the actual counts are created is the Current Tactical Flight Model (CTFM).

16.6 Load Counts

The load shows the counts according to the best information that the ETFMS has on each flight in a defined location:

If the flight is actual, it uses the real departure time and any subsequent updates to compute the entry time (CTFM).

If the flight is not actual but regulated, it uses the regulated demand (slot time) to compute the entry time (RTFM).

If the flight is not actual, nor regulated, it uses the flight plan, E-DPI and T-DPI-t information to compute the entry time (FTFM).

If no flight plan has yet been received but a PFD is present, the load will use the predicted flight information available to compute the entry time (NTFM). The visualization of PFDs in TACT is optional.

The load is the count that is used by the NM tactical team to monitor the traffic situation.

16.7 Occupancy Counts

Occupancy counts provide the number of flights that are inside a defined location at a precise time and correspond to the flights that are (or will be) worked by ATC at that time.

Occupancy count queries are available for traffic volumes, airspace volumes, delayed flights, aircraft operator and all flights. Occupancy counts are available to internal and external users. An occupancy count is a technique used by FMPs to monitor defined location loading. Occupancy Traffic Monitoring Values (OTMVs) for a sector / traffic volume may vary based on traffic complexity, technical status and the staff situation of the day. The FMPs / ACCs are in the best position to judge this.

The decisions taken by the NM are based on load monitoring and not on the assessment of occupancy counts, but access to occupancy counts are available via the query display in the ETFMS.

16.7.1 Basic Definitions

Some basic definitions of parameters used in OTMVs are:

Duration: Time Interval reference defined for a specific traffic volume. The interval is used to evaluate and compare the load against the Occupancy Traffic Monitoring Values (Peak and Sustained).

Peak: Occupancy Traffic Monitoring Value defined for a specific duration interval. If the load value in the traffic volume for the pre-defined duration exceeds the peak value an alarm is triggered.

Sustained: Occupancy Traffic Monitoring Value defined for a specific duration interval. This value indicates the maximum sustained value manageable. The condition is the following.

Step: Time rolling interval for which a duration period is 'moved' to evaluate the load.

Elapse: Time interval that defines the 'evaluating' period of sustained value.

Occurrence: Number of times that the load is above the sustained value defined.

16.7.2 Alarms Generation

Peak Alarm: If the load value of a step for a duration interval is above the peak value then the step is coloured as being overloaded (red). Exceptionally, an interval of one step between two peaks will be also marked in red.

Sustained Alarm: If the load of a step for a duration interval is above the sustained value AND there are more than x occurrences above the sustained value in the elapse interval then all the steps are coloured as being overloaded (orange - even if there are some values below the sustained between the first and the last values above the sustained).

16.7.3 Occupancy Query Access from the NID

It is possible to access the OTMV load and counts from the NID in order to simplify the ability to check occupancy counts and if necessary move the slot to a time to reduce overloads.

16.8 Special Locations

Special locations are artificial locations used to count and obtain flight lists on non-geographical locations. ETFMS supports following type of special locations:

Delayed flights - used for counts and flight lists on flights having a delay.

Aircraft operator - used for counts and flight lists for a specific operator.

All flights - used for counts and flight lists on all flights in the system.

For the more classical geographical locations (points, aerodromes, airspace or set of aerodromes Set of Aerodrome, Air Navigation Unit, Traffic Volume Set, Regulation, Restriction) the time of entry and exit corresponds to the time computed in the profile by the ETFMS.

For special locations, a flight is considered to have a time of entry at the TOT of the flight and an exit time at the flight arrival time.

16.9 Segment Counts

The segment counts enable the user to examine ‘flows’ on the ETFMS map. Access to a flow's flight list from the flow displayed on the map display is possible.

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17 ANNEX F: ASM – ATFCM PROCESS

17.1 The Basis of the FUA Concept

Flexible Use of Airspace (FUA) concept is based on the fundamental principle that airspace should not be designated as either pure civil or military airspace, but rather be considered as one continuum in which all user requirements have to be accommodated to the extent possible.

The Flexible Use of Airspace concept is based on the possibilities offered by new or adaptive airspace and route structures that are particularly suited for temporary allocation and utilisation, namely non-permanent ATS routes called conditional routes (CDR1) and temporary areas (TSAs, TRAs, CBAs and AMC-manageable R or D areas).

The application of the FUA concept includes the setting-up of national airspace management cells (AMCs), for the daily allocation and promulgation of flexible airspace structures, and on the establishment of the Centralised Airspace Data Function (CADF) within the NM. The CADF disseminates the daily information of airspace structures status to aircraft operators.

The concept is intended to allow the maximum use of airspace through civil / military coordination. The application of the FUA concept ensures that any airspace segregation / reservation shall be temporary and based on the real need for a specified time period.

A comprehensive summary of the FUA concept can be found in the **European Route Network Improvement Plan, Part 3 Airspace Management Handbook, Guidelines for airspace management**, which is available on the NM website and contains a list of the acronyms used.

17.2 The ASM Levels

The three main levels of airspace management (ASM) correspond to civil / military coordination tasks together with the associated rules for their usage in a distinct and close relationship. Each level has an impact on the others:

- **ASM LEVEL 1** Strategic Level: establishment of pre-determined airspace structures. Related tasks include the high level definition and review of the national airspace policy, taking into account both national and international airspace requirements.
- **ASM LEVEL 2** Pre-tactical Level: day-to-day allocation of airspace according to the user requirements. The task is to conduct the operational management within the framework of the structures and procedures defined at Level 1.
- **ASM LEVEL 3** Tactical Level: real-time use of airspace allowing a safe OAT / GAT separation. This level consists of the activation, de-activation or reallocation of the airspace allocated at Level 2 and the resolution of specific airspace problems and / or individual traffic situations between Operational Air Traffic (OAT) and General Air Traffic (GAT).

17.2.1 Area Control Centre (ACC) / Flow Management Position (FMP) – CDR1 / Areas Requests

Requests for CDR1 and / or airspace volumes availability, more relevant in FRA environments, will normally be based on capacity shortfalls identified in the pre-

tactical ATFCM phase. The Flow Management Positions (FMPs) and the associated Area Control Centres (ACCs) in coordination with the NM will assess the expected traffic forecast for the next day, highlight areas of insufficient ATC capacity and agree to the requirement for traffic flow adjustment requests.

As a result of this pre-tactical ATFCM coordination process, and after consideration of all other relevant ACC factors, the FMPs / ACCs, as Approved Agencies (AAs), will submit, on the day before operations, their request of CDR1s and / or airspace volumes to the AMC.

17.3 The ASM Airspace Structures

17.3.1 Temporary Airspace Restriction and Reservation

The Temporary Airspace Allocation (TAA) process consists in the allocation process of airspace of defined dimensions assigned for the temporary reservation/segregation (TRA / TSA) or restriction (D / R) and identified more generally as an "AMC-manageable" area.

Two different types of airspace reservation can be established taking into consideration the activity that would take place associated with the transit possibility:

- Temporary Reserved Area (TRA);
- Temporary Segregated Area (TSA).

Temporary Segregated Areas (TSAs) are areas that are temporarily reserved for the exclusive use of specific users to ensure the safety of all operations.

Whenever an area is planned to be used for activities not always requiring a segregation to protect not-participating aircraft, it should be designated as Temporary Reserved Areas (TRA). In this way it would be possible to improve the flexibility in the usage, allowing tactical crossing when the activity inside does not require a protection of not-participating traffic.

17.3.2 Cross-Border Areas (CBAs)

Cross-Border Areas are the Temporary Segregated/Reserved Areas established over international boundaries. They are established by the States to allow military training and other operational flights to be carried out on both sides of a border.

17.3.3 Reduced Coordination Airspace (RCAs)

Reduced coordination airspace is a specific portion of airspace with which GAT is permitted off-route without requiring GAT controllers to initiate coordination with OAT controllers.

17.3.4 Conditional Routes

Flexible airspace structures have been established that are suited to temporary use, one of these are the so-called Conditional Routes (CDR1).

Special care shall be taken in the use of Conditional Routes that have been established for the implementation of FUA.

CDR1 routes are published by national authorities:

- Conditional Route (CDR1)

A CDR1 route is available for flight planning during times published in the relevant National AIP unless unavailability has been notified through National Airspace Use Plan (AUP). The EAUP / EUUP shall publish unavailabilities of CDR1 routes.

Note: NM working arrangements took the decision in 2017 to move to a single CDR category (CDR1). A Transition period has been agreed to achieve the final implementation of a single CDR category. Full implementation is expected to be achieved by the end of 2022.

17.4 The ASM Airspace Units

17.4.1 Approved Agencies (AAs)

Those concerned national authorities approve units, known as Approved Agencies (AAs), to utilise CDR1s, TSAs / TRAs, CBAs or AMC-manageable restricted and danger areas.

AAs are required by States to submit airspace / CDR1 requests to the AMC for airspace utilisation and allocation in order to perform their operations with the required safety.

Any request could be presented as a block of airspace / FLs for CDR1 required during a specified period of time with the possibility of adapting the request in time and flight level.

The requests should refer to the 24H period of time between 06:00 UTC the next day to 06:00 UTC the day after (D 0600hrs to D+1 0600hrs).

17.4.2 Airspace Management Cell (AMC)

A joint civil/military Airspace Management Cell (AMC) exists to conduct the day-to-day management and temporary allocation of national airspace according to user requirements.

Approved Agencies (AAs) responsible for airspace activities submit requests for allocation of airspace or routes (CDR1) to the AMC the day before operations.

After the AMC has received, evaluated and de-conflicted the airspace requests, the notification of the airspace allocation (CDR1, TSAs, etc.) are published in a daily Airspace Use Plan (AUP).

After the AUP publication, additional requests / information can be received by AAs and any change in the allocation plan will be communicated through national Updates Airspace Use Plans (UUPs).

17.5 The ASM Process

17.5.1 National Airspace Use Plan (AUP) / Updated Airspace Use Plan (UUP)

After the coordination process, by 15:00 UTC (14:00 UTC summer) the AMC should promulgate the AUP via CIAM or local ASM tools for the 24-hour period from 06:00 UTC on the day of operations to 06:00 UTC the next day (06:00 UTC D to 06:00 UTC D +1);

AMC will notify of any change of airspace status published with AUP via the promulgation of the first convenient UUP from 17:00 UTC (16:00 UTC summer) every hour up to 20:00 UTC (19:00 UTC summer) on D-1 with validity from 06:00 on D day to 0600 UTC D+1, and then from 07:00 UTC (06:00 UTC summer) on D+1 every 30 minutes up to 20:00 UTC (19:00 UTC summer). Each UUP promulgated by AMC supersedes the previous one(s).

17.5.2 European Airspace Use Plan (EAUP) / European Updated Airspace Use Plan (EUUP)

The European Airspace Use Plan (EAUP) contains the consolidated list of unavailable CDR1s or permanent ATS routes as repetition of prior notice by NOTAM. It also contains the planned activations of restricted/reserved airspace structures.

The EAUP is issued by the NM each day by 15:00 / 14:00 UTC (winter / summer 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.

18 ANNEX G: ROUTE AVAILABILITY DOCUMENT (RAD)

The Route Availability Document (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 published each AIRAC cycle following a structured standard process of Requirement, Validation and Publication by the NM in cooperation / coordination with the States and the AOs. After publication, the RAD may be updated through the increment file. For details of route characteristics, refer to the ENR section of the relevant AIP.

18.1 Basic Principles

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 also defining restrictions that prevent disruption to the organised system of major traffic flows through congested areas with due regard to AOs 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 when required.

The RAD should also assist the NM in identifying and providing re-routeing 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.

18.2 Structure

The routeing organisation is defined by a list of restrictions on specific points, ATS route segments, DCT segments or sectors in both the upper and lower airspace.

The document includes all route flow restrictions valid for the NM area of responsibility.

Note 1: Details of weekend periods and/or the start and end time of the periods relates the restricted object concerned unless specified otherwise.

Note 2: Additional periods can be declared as weekends (e.g. Busy Fridays, Nights, Bank Holidays), refer to national publication, relevant annex or RAD Harmonisation Rule (published on the NOP Portal) for details.

Reference is made to the phases of ATFM operation. These are as follows:

- **Strategic phase**: A planning phase from more than six days before the day of operation;
- **Pre-tactical phase:** A planning phase during the six days before the day of operation;
- **Tactical phase:** The day of operation.

18.3 Period of Validity

The routeing organisation is permanently effective and applies daily H24, unless otherwise specified.

18.4 NM Application

The RAD is fully integrated into the NM systems, including IFPS. Any changes to an Annex will automatically be checked provided the relevant notification period has been observed.

Changes agreed outside the AIRAC cycle will be published in the RAD increment file (Published on the NOP Portal) and implemented in NM systems in real time.

18.5 Permanent Amendments

Permanent amendments to the RAD, or the period of validity, will be coordinated by the NM with the States concerned together with the AO organisations. All States concerned shall provide their request for changes to the NM, taking into account agreed publication and implementation dates, in accordance with AIRAC procedures.

Suspension of navigation aids, and / or replacement by temporary mobile units will be promulgated in the appropriate Annex of the RAD. Amendments will be published as follows:

- 34 days in advance of the relevant AIRAC cycle.
- Amendments will be highlighted in bold lettering.
- Last-minute changes will only be accepted on an exceptional basis, and only when they have an operational impact.

18.6 Flight Planning

The RAD defines restrictions on points, ATS route segments, DCT segments, sectors or through specified areas during the published period of validity. Aircraft operators planning flights through these areas must flight plan in accordance with these route restrictions, taking into account any change of validity.

When a route is restricted between two points it must be understood that all segments, between the recorded points, are included in the restriction. Cross-

boundary restrictions will be identified with a cross-boundary code (e.g. EGEB2000).

When filing flight plans, aircraft operators must comply with any flight level limitation published in the RAD.

An operator who has submitted a flight plan for a route and wishes to change to another route must either send a CHG message giving the new route, or cancel the existing flight plan and submit a new flight plan following the replacement flight plan procedure. This applies equally to re-routeing proposed by the NM and to changes made at the initiative of the operator.

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19 ANNEX H: REGULATORY REPORTING PROCESS

All reports referenced in this process description are available through the NM dashboards (ATFM statistics and NMIR) that can be accessed at:

https://ext.eurocontrol.int/analytics/

The Agency website provides instructions on how to access the portal.

https://www.eurocontrol.int/network-performance

19.1 Reporting Process for ATFM Compliance

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.

19.2 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.

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 part of ATFM Statistics – ATFM compliance dashboard, Departure Compliance tab. 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 NM dashboards 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:
  - ATFM Statistics – ATFM compliance dashboard, Departure Compliance tab
- NMIR ATFM Compliance dashboard, the Slot Tolerance tab

Phase 3:

- The Member States where EC law is directly applicable are responsible for reporting to the EC, copying in the NMD (nm.ops.perf@eurocontrol.int). The Member States where EC law is not applicable should report to NM.

19.3 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 part of ATFM Statistics – ATFM compliance dashboard, ATFM Exemption tab. This report shall present a quarterly evolution per country together with country details (yearly and monthly repartition) about each status of exemption. NM provides the Member States through the nominated Focal Point the list of exempted flights. NM notifies the Member States when their annual exemptions exceed the 0.6% target.

Phase 2:

- The member states are responsible for leading the investigation of the detected problems.
- The member states have the possibility to use the NM dashboards 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:
  - ATFM Statistics – ATFM compliance dashboard, ATFM Exemption tab
  - ATFM Statistics – Exempted flights dashboard
  - NMIR ATFM Compliance dashboard, the ATFM Exemption tab

Phase 3:

- The Member States where EC law is directly applicable are responsible for reporting to the EC, copying in the NMD (nm.ops.perf@eurocontrol.int). The Member States where EC law is not applicable should report to NM.

19.4 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.

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 part of ATFM Statistics – ATFM compliance dashboard, Flight Plan Suspensions tab.

- The report shall present a yearly/monthly evolution of the European zone together with the individual country adherence values (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 NM dashboards to investigate and get information via the following reports:
  - ATFM Statistics – ATFM compliance dashboard, Flight Plan Suspensions tab
  - NMIR Flight dashboard, the Flight List tab, analysis type - flights subject to FAM
  - NMIR Traffic and Delay dashboard, FAM Monitoring:
  - Counts on shifts and suspension induced by FAM
  - Counts of flight subject to FAM
  - NMIR ATFM Compliance dashboard, the Flight Plan Suspension tab

Phase 3:

- The Member States where EC law is directly applicable are responsible for reporting to the EC, copying in the NMD (nm.ops.perf@eurocontrol.int). The Member States where EC law is not applicable should report to NM.

19.5 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:

- NMD will produce summary reports of
  - Missing Flight-Plans CRCO Flights: the number of flight plans held by the central route charges office (CRCO) that reference flights having no equivalents in NM operational systems (ETFMS).

  Available on monthly basis in ATFM Statistics Dashboard – ATFM Compliance Monitoring – CRCO Missing Flights Plans tab Air traffic flow management statistics dashboard (ATFM STATS) | EUROCONTROL
  - Missing Flight Plans: the number of flight plans missing in IFPS. Available on monthly basis in ATFM Statistics Dashboard – ATFM Compliance Monitoring – Missing Flight Plans tab Air traffic flow management statistics dashboard (ATFM STATS) | EUROCONTROL
  - ATFM Statistics – ATFM compliance dashboard, Missing Flight Plans - APL Flights tab: the report will cover quarterly the flights entering NM airspace without a valid FP and ATC filed the flight plan

- ATFM Statistics – ATFM compliance dashboard, Multiple Flight Plans tab: the number of flights where the NMD was not notified of take-off (i.e. that remained suspended by the Flight Activation Monitoring (FAM))
- ATFM Statistics – ATFM compliance dashboard, Duplicate Flight Plans – Number of Flight Plans having the same ADEP / ADES, same registration, same first three letters of ACFT ID, EOBT within 15 minutes of each other and FPLs overlapping in time (usually one operated and the other(s) cancelled)
- NMIR ATFM Compliance dashboard, the Missing, Multiple and Duplicate tabs

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 (nm.ops.perf@eurocontrol.int).

19.6 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 and / or airline involved shall be provided directly by the NMD.

Phase 2:

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

Phase 3:

- The airport slot coordinator and / or airline involved shall provide feedback to the NMD (nm.ops.perf@eurocontrol.int).

19.7 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) to the optimisation of the overall Network effect.

Note: 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.

Process

Phase 1:

- NMD will report on the quality of the ATFM in the Network in the Annual Network Operations Report, the NM Annual Report and the ATFM Annual Report.

Phase 2:

- NMD shall consult those reports in line with existing requirements and arrangements.

Phase 3:

- NMD shall publish / submit the reports in line with its formal consultation process.

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20 ANNEX I: 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						

nm.acc-contingency@eurocontrol.int

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21 ANNEX J: ATFCM MESSAGE TYPES

21.1 Slot Related Messages – Originated by the NM

The following table gives examples of all ATFCM messages currently in use. The table includes a brief description of each message and subsequent actions.

The corresponding NM B2B examples associated to ATFCM messages in use are included in the document **ATFM messaging AOWIR via NM B2B Use Cases**, chapter *Annex 7.4 ATFCM messages and their corresponding B2B services*.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE SAM (1) **-ARCID *AMC101*** **-IFPLID *AA12345678*** **-ADEP *EGLL*** **-ADES *LMML*** **-EOBD *160224*** **-EOBT *0950*** **-CTOT *1030*** **-REGUL *RMZ24M*** **-TTO -PTID *VEULE* -TO *1050* -FL *F300*** **-TAXITIME *0020*** **-REGCAUSE *CE 81***	**SAM: SLOT ALLOCATION MESSAGE** The **SAM** is used to inform AOs & ATS of the Calculated Take-Off Time (CTOT) computed by CASA for an individual flight, to which AOs / ATC must adhere.	Sent to AOs / ATS 2 hours before the last received EOBT. AOs / ATC must comply with the CTOT.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
TITLE SAM (2) **-ARCID** ***AMC 101*** **-IFPLID** ***AA12345678*** **-ADEP** ***EGLL*** **-ADES** ***LMML*** **-EOBD** ***160224*** **-EOBT** ***0945*** **-CTOT** ***1200*** **-REGUL** ***LMMLA24*** **-TTO -PTID** ***GZO*** **-TO** ***1438*** **-FL** ***F060*** **-COMMENT** ***AERODROME OR AIRSPACE OR POINT NOT AVAILABLE*** **-TAXITIME** ***0010*** **-REGCAUSE** ***AA 83***	**SAM: SLOT ALLOCATION MESSAGE** ***In the case of:*** **Non Availability** A **SAM** message is sent by the NM when a problem occurs on the flight path requiring a modification of the take-off time e.g. non-availability of aerodrome for a short period.	In the event of a non-availability for a short period the NM activates exceptional condition mechanism to inform AOs individually of the delay of their flight(s). The AO and ATC shall comply to the(NEW)CTOT according to the usual ICAO rules. The (NEW may be modified as the situation requires. When an AO submits an amendment (e.g. DLA or CHG) to IFPS, he must always give as EOBT the earliest EOBT he may comply with. This time is not directly related to the (NEW)CTOT provided in the SRM. The EOBT in IFPS should always reflect the time at which the AO actually wants to be off-blocks. The flight plan may be modified to avoid the problem area. Reference shall be made to AIM / ANM and NOTAM.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE SAM (3) **-ARCID *AMC 101*** **-IFPLID *AA12345678*** **-ADEP *EGLL*** **-ADES *LMML*** **-EOBD *160224*** **-EOBT *0945*** **-CTOT *1200*** **-RVR *100*** **-REGUL *LMMLA24*** **-TTO -PTID *GZO* -TO *1438* -FL *F060*** **-COMMENT *RVR CRITERIA NOT MET*** **-TAXITIME *0010*** **-REGCAUSE *WA 84***	**SAM: SLOT ALLOCATION MESSAGE** ***In the case of* Runway Visual Range (RVR)** An SAM message is sent by the NM when a problem occurs at or around aerodromes requiring a modification of the take-off time e.g. low visibility conditions which affect ATC capacity. The flight is delayed to arrive when RVR requirement is met (the RVR field will be added in the SAM message indicating the minimum RVR required as well as the related comment).	ETFMS sends individual Slot Allocation Messages to inform AOs and / or ATC that a flight has been delayed to arrive when RVR requirement is met. An SAM will be sent immediately at or after the moment of slot issue. AOs / ATC must conform to the SAM and, where required, the relevant AIM. Flights delayed due to insufficient RVR are repositioned in the slot list at reception of messages from AOs (see FCM below). The message will be followed by a SRM (indicating the NEWCTOT) or an SLC which indicates the departure requirements. Flights affected by weather conditions may become subject to other ATFCM regulations as well.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE SRM **(1)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** ***EGLL*** **-ADES** ***LMML*** **-EOBD** ***160224*** **-EOBT** ***0950*** **-NEWCTOT** ***1020*** **-REGUL** ***RMZ24M*** **-TTO -PTID** ***VEULE*** **-TO** ***1025*** **-FL** ***F300*** **-TAXITIME** ***0020*** **-REGCAUSE** ***CE 81***	**SRM: SLOT REVISION MESSAGE** After CASA has issued an initial **SAM**, subsequent updates may be notified via the **Slot Revision Message** (**SRM**). This message may be used to indicate a delay increase or decrease.	The **SRM** notifies a significant change of slot. It is issued not earlier than 2 hours before the last received EOBT. This EOBT may be provided by DLA or CHG. AOs / ATC must comply with the NEWCTOT.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
TITLE SRM **(2)** **-ARCID** *AMC 101* **-IFPLID** *AA12345678* **-ADEP** ***EGLL*** **-ADES** ***LMML*** **-EOBD** ***160224*** **-EOBT** ***0945*** **-NEWCTOT** ***1200*** **-REGUL** ***LMMLA24*** **-TTO -PTID** ***GZO*** **-TO** ***1438*** **-FL** ***F060*** **-COMMENT** ***AERODROME OR AIRSPACE OR POINT NOT AVAILABLE*** **-TAXITIME** ***0010*** **-REGCAUSE** ***AA 83***	**SRM: SLOT REVISION MESSAGE** ***In the case of :*** **Non Availability** An **SRM** message is sent by the NM when a problem occurs on the flight path requiring a modification of the take-off time e.g. non-availability of aerodrome.	In the event of a non-availability for a short period the NM activates exceptional condition mechanism to inform AOs individually of the delay of their flight(s). The AO and ATC shall comply with the (NEW) CTOT according to the usual ICAO rules. The (NEW) CTOT may be modified as the situation requires. When an AO submits an amendment (e.g. DLA or CHG) to IFPS, he must always give as EOBT the earliest EOBT he may comply with. This time is not directly related to the (NEW) CTOT provided in the SAM / SRM. The EOBT in IFPS should always reflect the time at which the AO actually wants to be off-blocks. The flight plan may be modified to avoid the problem area. Reference shall be made to AIM / ANM and NOTAM.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE SRM (3) **-ARCID** *AMC 101* **-IFPLID** *AA12345678* **-ADEP** ***EGLL*** **-ADES** ***LMML*** **-EOBD** ***160224*** **-EOBT** ***0945*** **-NEWCTOT** ***1200*** **-RVR** ***100*** **-REGUL** ***LMMLA24*** **-TTO -PTID** ***GZO*** **-TO** ***1438*** **-FL** ***F060*** **-COMMENT** ***RVR CRITERIA NOT MET*** **-TAXITIME** ***0010*** **-REGCAUSE** ***WA 84***	**SRM : SLOT REVISION MESSAGE** ***In the case of*** **Runway Visual Range (RVR)** An SRM message is sent by the NM when a problem occurs at or around aerodromes requiring a modification of the take-off time e.g. low visibility conditions which affect ATC capacity. The flight is delayed to arrive when RVR requirement is met (the RVR field will be added in the SRM message indicating the minimum RVR required as well as the related comment).	ETFMS sends individual Slot Allocation Messages to inform AOs and / or ATC that a flight has been delayed to arrive when RVR requirement is met. A SRM will be sent immediately AOs / ATC must conform to the SRM and, where required, the relevant AIM. Flights delayed due to insufficient RVR are repositioned in the slot list at reception of messages from AOs (see FCM below). The message will be followed by a SRM (indicating the NEWCTOT) or an SLC which indicate the departure requirements.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE SLC **(1)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *0945* **-REASON** *OUTREG* **-TAXITIME** *0020*	**SLC: SLOT REQUIREMENT CANCELLATION MESSAGE** Sent to AOs / ATS to advise that a flight which has received a **CTOT** is no longer subject to an ATFCM restriction.	The flight is no longer subject to ATFCM measures and may depart without delay. If the EOBT of the flight is not realistic (e.g. more than 15 minutes in the past) the SLC will indicate a COMMENT PLEASE UPDATE EOBT WITH A DLA MSG reminding the AO to update its EOBT by sending a DLA**)**.
-TITLE SLC **(2)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *0945* **-REASON** *VOID* **-COMMENT** *FLIGHT CANCELLED* **-TAXITIME** *0020*	**SLC: SLOT REQUIREMENT CANCELLATION MESSAGE** ***In the case of*** **Cancel** Sent to AOs / ATS to confirm that the slot of a regulated flight has been released as a result of a CNL.	When an SLC is issued as a result of a CNL, the field -COMMENT FLIGHT CANCELLED will be included in the SLC.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE SLC **(3)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD** *080901* **-EOBT** *0945* **-REASON** *NONE* **-COMMENT** *NEW ATFM MESSAGES MAY POSSIBLY BE PUBLISHED AT 2 HOURS BEFORE THE EOBT* **-TAXITIME** *0010*	**SLC: SLOT REQUIREMENT CANCELLATION MESSAGE** ***In the case of*** **EOBT Update** Sent to AOs / ATS to inform that due to an update on their EOBT which pushes it further than two hours in the future, previous CTOT is no longer valid. If applicable a new SAM will be sent by NMOC two hours before the new EOBT.	When an SLC is issued as a result of an EOBT update which pushes the EOBT at least two hours after current clock time, the comment - *NEW ATFM MESSAGES MAY POSSIBLY BE PUBLISHED AT 2 HOURS BEFORE THE EOBT* - will be included in the SLC. No action is required by the users. If applicable a SAM will be sent by CASA at EOBT-2 hours.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
TITLE SIP **-ARCID** *AMC 101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *0945* **-CTOT** *1030* **-NEWCTOT** *1010* **-REGUL** *UZZU11* **-RESPBY** *0930* **-TAXITIME** *0020*	**SIP: SLOT IMPROVEMENT PROPOSAL MESSAGE** The **SIP** proposes a NEWCTOT. A response is expected from the AO. If no response is given, the proposal expires at the respond by (RESPBY) time (15 minutes after the SIP issue time) and the last published CTOT remains valid.	If CASA is able to improve the CTOT by a significant amount, by using the slots freed due to a revised EOBT, Slot Missed Message or an improved flow rate, etc., a proposal is put to the AO before the NEWCTOT becomes firm. The AO accepts the proposal with an **SPA** or rejects with an **SRJ**.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE FLS **(1)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *0945* **-REGUL** *LMMLA01* **-COMMENT** *AERODROME OR AIRSPACE OR POINT NOT AVAILABLE* **-TAXITIME** *0020* **-REGCAUSE** *AA 83*	**FLS: FLIGHT SUSPENSION MESSAGE** ***In the case of :*** **Non Availability** The ETFMS indicates with an **FLS** that this flight is considered as not taking off. The flight data are kept in the database but suspended (non-availability of an aerodrome for a long period).	In the event of a non-availability for a long period the NM activates the exceptional condition mechanism to inform AOs individually of the suspension of their flight(s). The identifier of the regulation(s) concerned together with the corresponding regulation reason are inserted in the FLS message AO must confirm their intent to operate in the provided regulation(s) with an FCM, in order to receive a slot after re-opening.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE FLS **(2)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *0945* **-RVR** *350* **-RESPBY** *0855* **-REGUL** *UZZU11* **-COMMENT** ***RVR UNKNOWN*** **-TAXITIME** *0020* **-REGCAUSE** WA *84*	**FLS: FLIGHT SUSPENSION MESSAGE** ***In the case of*** **Runway Visual Range (RVR)** The flight is suspended (comment will be RVR UNKNOWN) until the flight's RVR is provided to the NM.	ETFMS sends individual Flight Suspension Messages to inform AOs and / or ATC that a flight has been suspended. A **RESPBY** time is also in the message enabling the AO to keep its present CTOT if the **CHG / FCM** with sufficient RVR is received by the NM in due time. An **FLS** will be sent immediately where a flight has already received a CTOT. The **FLS** is sent instead of a **SAM** at the moment of slot issue. The identifier of the regulation concerned together with the corresponding regulation reason are inserted in the FLS message.
-TITLE FLS **(3)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *0945* **-COMMENT** ***SMM RECEIVED*** **-TAXITIME** *0020*	**FLS: FLIGHT SUSPENSION MESSAGE** ***In the case of :*** **Slot Missed Message (SMM)** After the reception of a **SMM**, the flight is put in suspension and ETFMS originates an **FLS**. The flight will be de-suspended after the reception of a message updating the EOBT.	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. The message will be followed by a SAM (indicating the CTOT) or a DES, indicating 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. AOs / ATC must conform to the **FLS** and, where required, the relevant AIM.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE FLS **(4)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *0945* **-COMMENT** ***NOT REPORTED AS AIRBORNE*** **-TAXITIME** *0020*	**FLS: FLIGHT SUSPENSION MESSAGE** ***In the case of :*** **Flight Activation Monitoring** The flights, which are expected to be airborne but are not actually reported as airborne will be regularly 'shifted' then suspended and ETFMS will originate an FLS.	Flights may be reactivated at reception of **DLA** or **CHG** messages from AOs. AOs / ATC must conform to the **FLS** and, where required, the relevant AIM. The message will be followed by a **SAM** (indicating the CTOT) or a **DES** indicating 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.
-TITLE FLS **(5)** **-ARCID** *BEL2CC* **-IFPLID** *AA00126947* **-ADEP** *EBBR* **-ADES** *LIPZ* **-EOBD** ***120119*** **-EOBT** *0543* **-COMMENT** ***SUSPENDED BY DEPARTURE AIRPORT*** **-TAXITIME** *0016*	**FLS: FLIGHT SUSPENSION MESSAGE** ***In the case of :*** **Cancel DPI** At airports transmitting DPI messages the Cancel DPI (C-DPI) is sent when there is an interruption to the departure planning process and a new Off-Block-Time is not (yet) known, triggering the FLS. When present in the C-DPI, the reason for sending the C-DPI will be included in the FLS comment-field, along with a recommended action for the airline.	The flight is de-suspended at reception of: • A delay or change message (DLA/CHG) updating the EOBT; • Any DPI message other than the A-DPI. 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.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE FLS **(6)** **-ARCID** *BEL2CC* **-IFPLID** *AA00126947* **-ADEP** *EBBR* **-ADES** *LIPZ* **-EOBD** ***120119*** **-EOBT** 0543 **-PTOT** 1000 **-RESPBY** 0720 **-REGUL** DVR9811 **-COMMENT** SUSPENDED DUE TO DELAY EXCEEDING THRESHOLD VALUE. SEND FCM BEFORE RESPBY TO SECURE PTOT. ALTERNATIVELY, REROUTE, OR UPDATE EOBT WITH A DLA MSG, OR CNL	**FLS: FLIGHT SUSPENSION MESSAGE** ***In the case of :*** **Regulation with Delay threshold Monitoring (used in specific circumstances decided by the NM)** To additionally give to the airspace users delay information and time to react before fully suspending a flight crossing a high delays regulation. An additional benefit is that the flights do not lose the initial sequence based on the ETO, as the slot is kept booked for a period of 20 minutes.	If, at SIT1 (EOBT - 2 hours) or later, the delay of the flight is bigger than the Delay Confirmation threshold time specified in the regulation editor, a slot for that flight will be booked, for a period of 20 min. Flights presenting delays below the threshold value will get a SAM. A FLS will be sent containing a Proposal Take-Off Time (PTOT) and a Time for response by (Time of FLS issuance +20 min). By sending a Flight Confirmation Message (FCM) message within the time for response by, the airspace user shows its acceptance of the PTOT, upon receipt of a FCM a SAM is sent (PTOT becomes the CTOT). If the airspace user fails to respond within the Time for response by, the booking is lost and the flight remains suspended. Before SIT1, provisional delays and flights affected by delay threshold regulations can be monitored using external interfaces (B2B or B2C).
-TITLE DES **(1)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *0945* **-TAXITIME** *0020*	**DES: DE-SUSPENSION MESSAGE** This NM message indicates that a flight which was previously suspended is now de-suspended.	The flight is de-suspended by ETFMS and is no longer subject to ATFCM measures. No action is normally required of AOs / ATS but if the EOBT of the flight is not realistic (e.g. more than 15 minutes in the past) the **DES** will indicate a COMMENT PLEASE UPDATE EOBT WITH A DLA MSG reminding the AO to update its EOBT by sending a DLA. In the meantime the flight will be counted as if departed at taxi time + TIS after the de-suspension. AO shall update the EOBT by sending a DLA / CHG.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE DES **(2)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *0945* **-COMMENT** *NEW ATFM MESSAGES MAY POSSIBLY BE PUBLISHED AT 2 HOURS BEFORE THE EOBT* **-TAXITIME** *0020*	**DES: DE-SUSPENSION MESSAGE** ***In the case of*** **EOBT Update** Sent to AOs / ATS to inform that due to an update on their EOBT which pushes it further than two hours in the future, previous CTOT is no longer valid. If applicable a new SAM will be sent by NMOC two hours before the new EOBT.	When a DES is issued for a previously regulated flight because of an EOBT update, which pushes the EOBT at least two hours after current clock time, the flight is de-suspended by ETFMS and is no longer subject to ATFCM measures. The comment "*NEW ATFM MESSAGES MAY POSSIBLY BE PUBLISHED AT 2 HOURS BEFORE THE EOBT* - will be included in the DES message. No action is normally by AOs / ATS.. If applicable a SAM will be sent by CASA at EOBT-2 hours

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE RRP **(1)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *1030* **-ORGRTE** *MID UA1 RBT UG32 TOP UA1 ELB UA12 PAL UA18 EKOLA A18 MLQ* **-CTOT** *1230* **-RRTEREF** *EGLLLMML1* **-NEWRTE** *MID UA1 RBT UG32 BAJKO UA21 NIZ UA2 AJO UA9 CAR UB21 PANTA B21 MLQ* **-NEWCTOT** *1105* **-RESPBY** *0900* **-COMMENT** *PURPOSE IS ATFCM* **-TAXITIME** *0020* *-TOT LIMIT -VALPERIOD 20080901105020080901450*	**RRP: REROUTEING PROPOSAL MESSAGE** This message is sent to an AO to offer a different CTOT or to avoid the need for a slot on a new route. A 'respond by time' is also added. ***Example 1*** The flight had already received a CTOT corresponding to its original route (ORGRTE). A new CTOT is offered provided the flight is refiled along the proposed new route (NEWRTE).	This issue follows a what-if reroute and 'apply' made at the NM. The AO who wishes to benefit from the offer shall consequently modify its flight plan either with a CHG (this solution preferred when the flight is conducted wholly within the IFPS / NM area of responsibility) or a CNL and refile using the Replacement Flight Plan procedure (RFP). This should be received before the RESPBY time. At the reception of the new route in the flight plan ETFMS will merge it to the proposal.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE RRP **(2)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *1030* **-ORGRTE** *MID UA1 RBT UG32 TOP UA1 ELB UA12 PAL UA18 EKOLA A18 MLQ* **-CTOT** *1230* **-RRTEREF** *EGLLLMML2* **-NEWRTE** *MID A1 BOGNA UA1 RBT UG32 TOP UA1 ELB UA12 UA18 EKOLA A18 MLG DCT MLQ* **-RESPBY** *0900* **-REASON** *OUTREG* **-COMMENT** *PURPOSE IS ATFCM* **-TAXITIME** *0020* *-TOT LIMIT -VALPERIOD 200809 200809011450*	***Example 2*** This flight is rerouted from a route which is crossing a regulated area(s) to a new route without a regulation. The REASON OUTREG indicates that there is no slot required, for that route.	Then SLC, SAM, SRM messages will be transmitted as appropriate. The possible combination of optional fields is as follows : -CTOT -NEWCTOT -CTOT -REASON -PTOT -NEWPTOT -PTOT -REASON -PTOT -NEWCTOT -NEWCTOT only -NEWPTOT only

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE RRP **(3)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *1030* **-ORGRTE** *MID UA1 RBT UG32 TOP UA1 ELB UA12 PAL UA18 EKOLA A18 MLQ* **-PTOT** *1230* **-RRTEREF** *EGLLLMML1* **-NEWRTE** *MID UA1 RBT UG32 BAJKO UA24 NIZ UA2 AJO UA9 CAR UB21 PANTA B21 MLQ* **-NEWPTOT** *1100* **-RESPBY** *0730* **-COMMENT** *PURPOSE IS ATFCM* **-TAXITIME** *0020* *-TOT LIMIT -VALPERIOD 200809 200809011450*	***Example 3*** This flight has not yet received its slot, only a provisional take-off (PTOT) time was calculated. A new provisional take-off (NEWPTOT) time is calculated which corresponds to the new proposed route. This value may be modified until the final slot is issued.	This issue follows a what-if reroute and 'apply' made at the NM. The AO who wishes to benefit from the offer shall consequently modify its flight plan either with a CHG or a CNL and refile using the Replacement Flight Plan procedure (RFP). This should be received before the RESPBY time. At the reception of the new route in the flight plan ETFMS will merge it to the proposal. Then SLC, SAM, SRM messages will be transmitted as appropriate.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE RRP **(4)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *1030* **-ORGRTE** *MID UA1 RBT UG32 TOP UA1 ELB UA12 PAL UA18 EKOLA A18 MLQ* **-PTOT** *1230* **-RRTEREF** *EGLLLMML2* **-NEWRTE** *MID A1 BOGNA UA1 RBT UG32 TOP UA1 ELB UA12 UA18 EKOLA A18 MLG DCT MLQ* **-RESPBY** *0730* **-REASON** *OUTREG* **-COMMENT** *PURPOSE IS ATFCM* **-TAXITIME** *0020* *-TOT LIMIT -VALP 20080901105020080901143O*	***Example 4*** Same as above. The flight has not yet received a slot and is proposed a route with no regulation active at the time of the proposal.	The possible combination of optional fields is as follows : -CTOT -NEWCTOT -CTOT -REASON -PTOT -NEWPTOT -PTOT -REASON -PTOT -NEWCTOT -NEWCTOT only -NEWPTOT only

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE RRP **(5)** **-ARCID** *GRV090A* **-IFPLID** *AT00002136* **-ADEP** *LGKV* **-ADES** *LGAL* **-EOBD** *140204* **-EOBT** *0525* **-ORGRTE** *N0250F090 IDILO* **-RRTEREF** *LGKVLGALG3* **-NEWRTE** *N0250F090 SOSUS1A SOSUS* **G12** *IDILO IDILO1A* **-RESPBY** *1305* **-REASON** *OUTREG* **-COMMENT** *PURPOSE IS FLIGHT EFFICIENCY* **-TAXITIME** *0005* *-TOTLIMIT* **-***VALPERIOD 201402040530 201402040930*	***Example 5*** Flight which is not regulated receives a new route with no regulation active at the time of the proposal.	This issue follows a what-if reroute and 'apply' made at the NM. The AO who wishes to benefit from the offer shall consequently modify its flight plan either with a CHG or a CNL and refile. This should be received before the RESPBY time.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE RRP **(6)** **-ARCID** *GRV090A* **-IFPLID** *AT00002136* **-ADEP** *LGKV* **-ADES** *LGAL* **-EOBD** *140204* **-EOBT** *0525* **-ORGRTE** *N0250F090 IDILO* **-RRTEREF** *LGKVLGALG3* **-NEWRTE** *N0250F090 SOSUS1A SOSUS* **G12** *IDILO IDILO1A* **-RESPBY** *1305* **-REASON** *OUTREG* **-COMMENT** *PURPOSE IS ATFCM* **-TAXITIME** *0005* *-TOTLIMIT* **-***VALPERIOD 201402040530 201402040930*	***Example 6*** Flight which is not regulated receives a more efficient route proposed route with no regulation active at the time of the proposal.	This issue follows a FLIGHT EFFICIENCY PROPOSAL made at the NM. The AO who wishes to benefit from the offer shall consequently modify its flight plan either with a CHG or a CNL and refile. This should be received before the RESPBY time.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE RRN **(1)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *1030* **-ORGRTE** *MID UA1 RBT UG32 TOP UA1 ELB UA12 PAL UA18 EKOLA A18 MLQ* **-CTOT** *1230* **-RRTEREF** *EGLLLMML1* **-NEWRTE** *MID UA1 RBT UG32 BAJKO UA21 NIZ UA2 AJO UA9 CAR UB21 PANTA B21 MLQ* **-NEWCTOT** *1105* **-RESPBY** *0900* **-COMMENT** *PURPOSE IS AOWIR* **-TAXITIME** *0020* *-TOT LIMIT -VALPERIOD 2008090110502008090114 50*	**RRN: REROUTEING NOTIFICATION MESSAGE** This message is sent to an AO to notify a rerouteing triggered through the NM Client Application. ***Example 1*** The flight had already received a CTOT corresponding to its original route (ORGRTE). A new CTOT is offered provided that the flight is refiled along the proposed new route (NEWRTE).	The RRN message is issued in case of an acceptance of the rerouteing with option 'CNL original FPL', book slot and flight plan refile by the AO via SITA / AFTN. The flight plan is cancelled in the NM system and a new slot may be booked : **-NEWCTOT** *1105* the new slot calculation result The IFPS proceeds exactly as if a cancel (CNL) message had been submitted by the user. SLC are distributed with the FPL cancellations. RRN messages are sent by ETFMS to AO addresses in accordance with the addressing rules in the ATFCM Users Manual and, in addition, to the address associated to the NM Client Application having made the Apply.

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE RRN **(2)** **-ARCID** *AMC101* **-IFPLID** *AA12345678* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *1030* **-ORGRTE** *MID UA1 RBT UG32 TOP UA1 ELB UA12 PAL UA18 EKOLA A18 MLQ* **-CTOT** *1230* **-RRTEREF** *EGLLLMML2* **-NEWRTE** *MID A1 BOGNA UA1 RBT UG32 TOP UA1 ELB UA12 UA18 EKOLA A18 MLG DCT MLQ* **-RESPBY** *0900* **-REASON** *OUTREG* **-COMMENT** *PURPOSE IS AOWIR* **-TAXITIME** *0020* *-TOT LIMIT -VALPERIOD 2008090110502008090114 50*	***Example 2*** This flight is rerouted from a route which is crossing a regulated area(s) to a new route without a regulation. The REASON OUTREG indicates that there is no slot required, for that route.	This message includes the new route description and e.g. : **REASON** *OUTREG* when the new route is not subject to ATFCM regulation or **The user is now expected to file a new flight plan in order to match the new conditions**. **This shall be received before RESPBY time.** The route should be fully consistent with the one provided within the RRN message and also displayed on the NM Client Application. Then SAM or FLS messages will be transmitted as appropriate. The possible combination of optional fields is as follows : -CTOT -NEWCTOT -CTOT -REASON -NEWCTOT only

SLOT RELATED MESSAGES - ORIGINATED BY THE NM		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE ERR **-ARCID** *AMC101* **-FILTIM** *0915* **-ORGMSG** *SMM* **-REASON** *SYNTAX ERROR*	**ERR: ERROR MESSAGE** The error message indicates that an error has been found in a message previously received by ETFMS. The erroneous field or the reason for rejection may be indicated.	This message is sent by ETFMS when a message is received but its syntax is incorrect and cannot be processed. It can also be sent when a message is received with a correct syntax but the message cannot be correlated to an existing flight plan or the message is not relevant (e.g. an EOBT earlier than the previous one). AOs / ATS resend the correct message.

21.2 Slot Related Messages – Originated by AOS / ATS

The corresponding NM B2B examples associated to ATFCM messages in use are included in the document **ATFM messaging AOWIR via NM B2B Use Cases**, chapter *Annex 7.4 ATFCM messages and their corresponding B2B services*.

SLOT RELATED MESSAGES - ORIGINATED BY AOs / ATS		
It is highly recommended that ATFCM messages originated by AOs / ATS include the EOBD and the IFPLID, preferably only if generated automatically. These fields being used by ETFMS in the correlation mechanism will precisely indicate to which flight the ATFCM message is addressed.		
MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE SMM **-ARCID** *AMC101* **-IFPLID** *AA11857784* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *0945* **-CTOT** *1020*	**SMM: SLOT MISSED MESSAGE** This message is originated by an AO when a slot time given in the **SAM** cannot be achieved but where a new EOBT cannot be supplied.	NM cancels the issued CTOT and issues the suspension with an FLS message. The flight is suspended until : AOs / ATS will advise new EOBT (when known) via a Change (**CHG**) / Delay (**DLA**), a new DPI message triggered by a TOBT update or CNL and refile into IFPS. The NM responds with an SAM or a DES.
-TITLE SPA **-ARCID** *AMC101* **-IFPLID** *AA11857784* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD** *190328* **-EOBT** *0945* **-NEWCTOT** *1010*	**SPA: SLOT IMPROVEMENT PROPOSAL ACCEPTANCE MESSAGE** This message is a positive response to a Slot Improvement Proposal (**SIP**) message.	NM confirms thereafter NEWCTOT with an SRM if an SPA is received within the RESPBY time. If an **SPA** outside RESPBY time or if parameters of restriction have changed, an error message will be sent stating the REASON i.e. VOID. AOs / ATC comply with the NEWCTOT or SRM.

-TITLE SRJ **-ARCID** *AMC101* **-IFPLID** *AA11857784* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD** *190328* **-EOBT** *0945* **-REJCTOT** *1010*	**SRJ: SLOT PROPOSAL REJECTION MESSAGE** This message is confirmation that an AO cannot comply with a Slot Improvement Proposal (**SIP**) message.	Use of this message will allow the SIP slot to be released back into the system for potential use elsewhere. The AO keeps the original slot received before the **SIP**.
-TITLE RFI **-ARCID** *AMC101* **-IFPLID** *AA11857784* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *1030*	**RFI: RFI MESSAGE** The RFI message is used by the AO to change the flight's readiness status from SWM (RFI NO) to RFI. The RFI status of the flight will be set to YES.	The AO operating a flight having its RFI status set to YES will receive an SRM if any improvement is possible. ATC will also receive the same message. AO and ATC shall comply with the NEWCTOT.

MESSAGE & *example*	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE SWM **-ARCID** *AMC101* **-IFPLID** *AA11857784* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *1030*	**SWM: SIP WANTED MESSAGE** The SWM message is used by the AO to indicate that it cannot accept SRM when an improvement is possible but wants to be in a position to refuse an improvement. The RFI status of the flight will be set to NO.	The AO operating a flight having its RFI status set to NO will receive a SIP if any significant improvement is possible. The AO will accept the proposal with an SPA or reject it with an SRJ.
-TITLE REA **-ARCID** *ABC101* **-IFPLID** *AA11857784* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD 08***0901* **-EOBT** *1030* **-MINLINEUP** *0005*	**REA: READY MESSAGE** For flights having already received their slot and being in a situation to depart before their CTOT (doors closed and ready to depart), the AO may ask local ATC to send a Ready (REA) message. In the REA local ATC may also include a MINLINEUP time, to indicate the minimum time needed for that flight to get from its position to take-off.	Only ATC / ATFCM units can send a REA message. **REA** may be sent between EOBT minus 15 minutes and the CTOT of the flight. When the REA is filed before the EOBT, the flight is considered as having a new EOBT at this filing time and the MINLINEUP as a revised taxi time. The MINLINEUP is constrained in the range [**0** min, **90** min] If an improvement is possible AO and ATC will receive an SRM.
-TITLE FCM (1) **-ARCID** *AMC101* **-IFPLID** *AA11857784* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD** *190328* **-EOBT** *0945* **-RVR** *200*	**FCM: FLIGHT CONFIRMATION MESSAGE** An AO indicates to ETFMS the RVR capability of a flight with an EOBT in the future. A suspended flight with an EOBT in the past or an obsolete EOBT must first be amended by a DLA and then confirmed by an FCM, which includes the flight's RVR capability. When the route has also to be changed it must be amended by a CHG, which will include an amended route and the flight's RVR capability.	An AO may send an **FCM** in response to a selective AIM or to an individual FLS message to provide the RVR operating minima which should be given in metres. When the flight's RVR capability is requested, the flight is kept suspended within ETFMS until this RVR capability is provided by CHG or FCM message or until the NM releases the RVR requirement or until a DLA / CHG message pushes the flight outside the period requesting the RVR.

-TITLE FCM (2) **-ARCID** *AMC101* **-IFPLID** *AA11857784* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD** *190328* **-EOBT** *0945* **-REGUL** *LMMLA01*	**FCM: FLIGHT CONFIRMATION MESSAGE** An AO indicates to ETFMS that a flight with an EOBT in the future is now confirmed for the regulation(s) provided in this FCM. A suspended flight with an EOBT in the past or an obsolete EOBT must first be amended by a DLA and then confirmed by an FCM. When the route has also to be changed it must first be amended by a CHG and then confirmed by an FCM.	An AO may send an **FCM** in response to a selective AIM or to an individual FLS message. When a confirmation is requested, the flight is kept suspended within ETFMS until FCM message(s) confirm the flight in all affecting regulation(s) requesting a confirmation or until the NM releases the confirmation requirement or until a DLA / CHG message pushes the flight outside the period requesting the confirmation.

MESSAGE & example	**DEFINITION**	**PROCEDURE & ACTION**
-TITLE FCM (3) **-ARCID** *AMC101* **-IFPLID** *AA11857784* **-ADEP** *EGLL* **-ADES** *LMML* **-EOBD** *190328* **-EOBT** *0945* **-RVR** *200* **-REGUL** *LMMLA01*	**FCM: FLIGHT CONFIRMATION MESSAGE** An AO indicates to ETFMS that a flight with an EOBT in the future is now confirmed for the regulation(s) provided in this FCM. The message may include the flight's RVR capability. A suspended flight with an EOBT in the past or an obsolete EOBT must first be amended by a DLA and then confirmed by an FCM. When the route has also to be changed it must first be amended by a CHG and then confirmed by an FCM.	An AO may send an **FCM** in response to a selective AIM or to an individual FLS message. If so required, it includes the RVR operating minima which should be given in metres. When both a confirmation and a flight's RVR capability are requested, the flight is kept suspended within ETFMS until FCM message(s) confirm the flight in all affecting regulation(s) requesting a confirmation and provide the flight's RVR capability or until the NM releases the confirmation and the RVR requirement or until a DLA / CHG message pushes the flight outside the period requesting the confirmation and the RVR.

-TITLE RJT **-ARCID** *AMC101* **-IFPLID** *AA11857784* **-ADEP** *EGLL* **-EOBD** *190328* **-EOBT** *0945* **-ADES** *LMML* **-RRTEREF** *EGLLLMML1*	**RJT: REROUTEING REJECTION MESSAGE** Used by an AO to reject an **RRP** message.	Use of the **RJT** will enable the slot potentially associated with the RRP, to be released back into the system for possible use elsewhere.

21.3 Primary Field Composition of Tactical ATFCM Messages

PRIMARY FIELD COMPOSITION OF TACTICAL ATFCM MESSAGES EXCHANGE (1)														
Message Field	**SAM**	**SRM**	**SLC**	**SIP**	**FLS**	**DES**	**RRP**	**RRN**	**ERR**	**SMM** SlotMissedRequest	**SPA** SlotProposalFeedbackRequest	**SRJ** SlotProposalFeedbackRequest	**FCM** FlightConfirmationRequest	**RJT** ReroutingProposalRejectedRequest
-TITLE	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-IFPLID (flightId)	1	1	1	1	1	1	1	1	(1)	(1)	(1)	(1)	(1)	(1)
-ADDR	(1)	(1)	(1)	(1)	(1)	(1)								
-ARCID (aircraftId)	1	1	1	1	1	1	1	1	(1)	1	1	1	1	1
-ADEP (aerodromeOfDeparture)	1	1	1	1	1	1	1	1	(1)	1	1	1	1	1
-EOBD (estimatedOffBlockTime)	1	1	1	1	1	1	1	1	(1)	(1)	(1)	(1)	(1)	(1)
-EOBT (estimatedOffBlockTime)	1	1	1	1	1	1	1	1	(1)	1	1	1	1	1
-IOBD	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
-IOBT	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
-CTOT (calculatedTakeOffTime)	1			1			(1)	(1)		1				
-NEWCTOT (calculatedTakeOffTime)		1		1			(1)	(1)			1			
-NEWPTOT (proposedCTOT)							(1)	(1)						
-REJCTOT (proposalCalculatedTakeOffTime)												1		
-REASON	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)					

PRIMARY FIELD COMPOSITION OF TACTICAL ATFCM MESSAGES EXCHANGE (1)														
Message Field	**SAM**	**SRM**	**SLC**	**SIP**	**FLS**	**DES**	**RRP**	**RRN**	**ERR**	**SMM** SlotMissedRequest	**SPA** SlotProposalFeedbackRequest	**SRJ** SlotProposalFeedbackRequest	**FCM** FlightConfirmationRequest	**RJT** ReroutingProposalRejectedRequest
-ADES (aerodromeOfDestination)	1	1	1	1	1	1	1	1	(1)	1	1	1	1	1
-REGUL (mostPenalisingRegulation)	1<	1<		1<	0<								0<	
-ORGRTE (icaoRoute)							1	1						
-PTOT (calculatedTakeOffTime)					(1)		(1)	(1)						
-NEWRTE							1	1						
-RRTEREF (routeId)							(1)	1						(1)
-RVR (runwayVisualRange)	(1)	(1)			(1)								(1)	
-RESPBY (responseBy)				1	(1)		1	1						
-ORGMSG									(1)					
-FILTIM									1					
-ERRFIELD														
-MINLINEUP (minLineup)														
-COMMENT	0<	0<	0<	0<	0<	0<	0<	0<	0<					
-TAXITIME (currentDepartureTaxiTimeAndProcedure)	1	1	1	1	1	1	1	1	(1)					

PRIMARY FIELD COMPOSITION OF TACTICAL ATFCM MESSAGES EXCHANGE (1)														
Message Field	**SAM**	**SRM**	**SLC**	**SIP**	**FLS**	**DES**	**RRP**	**RRN**	**ERR**	**SMM** SlotMissedRequest	**SPA** SlotProposalFeedbackRequest	**SRJ** SlotProposalFeedbackRequest	**FCM** FlightConfirmationRequest	**RJT** ReroutingProposalRejectedRequest
-REGCAUSE (iataDelayCode)	1	1			(1)									
-OBTLIMIT –- VALPERIOD (profileValidity)							1	1						
-TTO (targetTimeOverFix)	1	1												

‘1’ means: exactly one field of the specified type is required

‘(1)’ means : a single optional field of the specified type is allowed

a ‘blank cell’ means: this field is not in a message

‘n<‘ means: n or more occurrences of this field can appear in a message

Note: Refer to the IFPS Users Manual for the format of FLS message used in flight plan.

PRIMARY FIELD COMPOSITION OF TACTICAL ATFCM MESSAGES EXCHANGE (2)								
Message Field	**SWM** SlotImprovementModeReques	**RFI** SlotImprovementModeRequest	**REA** ReadyToDepartRequest					
-TITLE	1	1	1					
-ADDR								
-ADEP (aerodromeOfDeparture)	1	1	1					
-ADES (aerodromeOfDestination)	1	1	1					
-ARCID (aircraftId)	1	1	1					
-COMMENT								
-CTOT (calculatedTakeOffTime)								
-EOBD (estimatedOffBlockTime)	(1)	(1)	(1)					
-EOBT (estimatedOffBlockTime)	1	1	1					
-ERRFIELD								
-FILTIM								
-IFPLID (flightId)	(1)	(1)	(1)					
-IOBD	(1)	(1)						
-IOBT	(1)	(1)						
-MINLINEUP (minLineup)			(1)					
-NEWCTOT (calculatedTakeOffTime)								
-NEWPTOT (proposedCTOT)								
-NEWRTE								
-ORGMSG								
-ORGRTE (icaoRoute)								
-PTOT (calculatedTakeOffTime)								
-REASON								
-REGCAUSE (iataDelayCode)								
-REGUL (mostPenalisingRegulation)								
-REJCTOT (proposalCalculatedTakeOffTime)								
-RESPBY (responseBy)								

-RRTEREF (routeId)								
-RVR (runwayVisualRange)								

‘1’ means: exactly one field of the specified type is required

‘(1)’ means: a single optional field of the specified type is allowed

a ‘blank cell’ means: this field is not in a message

‘n<‘ means: n or more occurrences of this field can appear in a message

Note: The corresponding NM B2B examples for ATFCM messages are available in the document *“ATFM messaging AOWIR via NM B2B Use Cases”*

Abbreviations

Abbreviations and acronyms used in this document are available in the EUROCONTROL Air Navigation Inter-site Acronym List (AIRIAL) which may be found online:

http://www.eurocontrol.int/airial/definitionListInit.do?skipLogon=true&glossaryUid=AIRIAL.

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