



**REGULATORY UNIT**  
**ADVANCED EUROCONTROL NOTICE OF**  
**PROPOSED RULE-MAKING (A-ENPRM)**

***AIR TRAFFIC FLOW MANAGEMENT***

## DOCUMENT CONTROL

### DOCUMENT CHANGE RECORD

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## 1. INTRODUCTION

### 1.1 A-ENPRM and Single European Sky

The EUROCONTROL Notice of Proposed Rule-making (ENPRM)<sup>1</sup> is EUROCONTROL's method of allowing the widespread review of and comment on mature draft rules by stakeholders and other interested parties (including the public) before they are submitted to the Organisation's decision-making bodies. Upon their approval, those draft rules become binding on Contracting Parties to the EUROCONTROL Convention.

The Advanced-ENPRM (A-ENPRM)<sup>2</sup> is a tool provided within the ENPRM Regulatory Process that allows EUROCONTROL to issue a discussion paper to seek widespread comment on a particular regulatory issue and specifically to obtain feedback on whether EUROCONTROL should proceed to initiate rule development or change on a particular matter. The results of the comments received on the discussion paper may determine whether or not EUROCONTROL will proceed with a particular rule development/change and influence the chosen regulatory approach. A-ENPRMs do not replace ENPRMs. Should subsequent rules be drafted, EUROCONTROL would issue an ENPRM in due course.

Following the adoption of the Single European Sky (SES) regulations<sup>3</sup>, it is expected that the European Commission (EC) will give mandates to EUROCONTROL, notably for the development of *Air Traffic Flow Management*<sup>4</sup> (ATFM) implementing rules. The Agency intends, in coordination with the EC, to apply as well the ENPRM mechanisms to develop the proposals for such implementing rules, which will have to take full account of Community requirements and legal constraints. Would these rules or complementary ones have to be adopted as EUROCONTROL Rules, they would have to take full account of the related provisions of the EUROCONTROL revised Convention<sup>5</sup>, notably Articles 2.1 (e), 7.2 (d) and 19.

### 1.2 Purpose of A-ENPRM

Several studies<sup>6</sup> have identified a number of issues from across the whole ATFM stakeholder community that compromise the current and future performance of the system and have concluded that urgent action is necessary to address these concerns. This includes, inter alia, recommendations to extend the ATFM mandate and the introduction of oversight mechanisms.

The purpose of this A-ENPRM is therefore to:

- identify the issues and draft the principles associated with the proposal for the further regulation of Air Traffic Flow Management ; and
- seek comments from those affected by this proposal as to the suitability and viability of the proposal.

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<sup>1</sup> See reference [1], Chapter 11

<sup>2</sup> See reference [1], Chapter 11

<sup>3</sup> See reference [2], [3], [4] and [5], Chapter 11

<sup>4</sup> The expressions in italics, first occurrences of ATFM terms and acronyms, are defined in Chapter 12

<sup>5</sup> See reference [6], Chapter 11

<sup>6</sup> See reference [7], [8], [9], [10] and [11], Chapter 11

## 2. REGULATORY PROVISIONS FOR AIR TRAFFIC FLOW MANAGEMENT

The SES regulations<sup>7</sup> describe ATFM as “a function established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that *ATC capacity* is utilised to the maximum extent possible and that the *air traffic volume* is compatible with the capacities declared by the appropriate air traffic service providers”.

The current ATFM mandate results from the EUROCONTROL Amended Convention<sup>8</sup> and from the early implementation of the EUROCONTROL Revised Convention<sup>9</sup>. It is in conformance with related ICAO provisions (Annex 11, PANS-ATM Doc 4444, EUR ANP/FASID Doc 7754 and EUR SUPPs Doc 7030)<sup>10</sup>.

Under this mandate, the European ATFM function operates by coordinating the ATC efforts from Air Navigation Service Providers (ANSPs) to make best use of the capacity of control provided by the Air Traffic Service Units (ATSUs) with the goal of processing with minimum delays the overall European traffic demand. This function is fulfilled in cooperation between the EUROCONTROL Central Flow Management Unit (CFMU), which is the central ATFM body, the ATSU through their *Flow Management Positions (FMPs)* that are the local ATFM bodies, the Aircraft Operators (AO), the Airports and the Military Organisations.

## 3. POLICY OBJECTIVES

The EUROCONTROL regulatory process requires that rule-making must be set against clear policy objectives to ensure that regulatory material is developed to meet approved strategic objectives of the Organisation.

The SES regulations on airspace and interoperability<sup>11</sup> include clear ATFM related provisions, which will provide the framework for the evolution of European ATFM.

The SES regulation on the organisation and use of the airspace<sup>12</sup> stipulates (Article 9.1) that ATFM implementing rules will aim at “optimising available capacity in the use of airspace and enhancing flow management processes”. It is stated as well that they “shall be based on transparency and efficiency, ensuring that capacity is provided in a flexible and timely manner”.

Strategic objectives for Air Traffic Flow Management are also expressed in the ATM Strategy for the years 2000+<sup>13</sup>. They promote the enhancement of ATFM procedures and the progressive implementation of *Air Traffic Flow and Capacity Management*. Particular emphasis (Vol. 1, 3.2) is put on “a pro-active and collaborative management of flows and capacities to optimise the use of the resulting European network”.

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<sup>7</sup> See reference [2], [3], [4] and [5], Chapter 11

<sup>8</sup> See reference [6], Chapter 11

<sup>9</sup> See reference [6], Chapter 11

<sup>10</sup> See reference [13], [14], [15] and [16], Chapter 11

<sup>11</sup> See reference [4] and [5], Chapter 11

<sup>12</sup> See reference [4], Chapter 11

<sup>13</sup> See reference [17], Chapter 11

## 4. NEED FOR REGULATORY ACTION

### 4.1 General

Extensive studies and consultations with ATFM stakeholders, ATFM actors and experts have raised a number of concerns with the current ATFM processes. These include, inter alia:

- inaccurate picture of the traffic demand caused by inappropriate *flight plan filing* or registration;
- significant percentage of poor *Slot Adherence* at certain airports, due to multiple causes (limited awareness of ATFM objectives, conflicting requirements between *ATFM slots* and optimisation of departure sequence, notably at major airports);
- estimation of capacities declared by ANSPs (in particular for uncertainty reasons) resulting in unnecessary ATFM regulations on airspace sectors;
- need for improved reciprocal flexibility between the military community and the civil organisations concerning access to airspace, to reduce the impact of conflicting requirements and allow extensive use of airspace for military purpose;
- limited usage of alternative *ATFM measures* (e.g. *re-routing*) instead of air traffic volume regulations resulting in possible capacity wastage or reduced flexibility for Aircraft Operators;
- lack of systematic alternative proposals of re-routing from the CFMU, to limit individual ground delays resulting from *ATFM slot allocation*.

### 4.2 Independent Study and ATFM Action Plan

The "Independent Study for the improvement of ATFM"<sup>14</sup> formulated recommendations, a number of them having regulatory implications:

- Extend and apply the mandate of ATFM. The extended mandate should be incorporated into the General Conditions for the Application of ATFM foreseen by the revised Convention;
- Consider the creation of an independent oversight structure that will represent all stakeholders to supervise, inter alia, a non-compliance procedure;
- Define a consistent route and traffic orientation policy;
- Check each flight plan against its airport slot(s);
- Ensure, unlike the current situation, that flight plans used by pilots, air traffic and flow controllers are consistent and that ATFM slots are respected;
- Encourage global awareness (of ATFM actors) by giving them instantaneous information about the air traffic situation in Europe;
- Define positive, global efficiency indicators;
- Develop alternative slot allocation mechanisms, *collaborative decision making* (CDM) and modern communication systems.

The extension of the current ATFM mandate was justified within the independent study on the grounds that ATFM should be used to improve the efficiency of the global system. ATFM should be extended to support the optimisation of traffic patterns and *capacity management*. The study concluded that major reforms would be necessary to achieve the necessary level of service, including structural, procedural and operational reforms and the establishment of independent oversight and review functions. Such major reforms cannot be achieved without regulatory action.

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<sup>14</sup> See reference [7], Chapter 11

In response to the independent study, the ATFM Action Plan<sup>15</sup> was proposed by the Director General of the EUROCONTROL Agency. The Plan includes institutional actions. It is also underlined that “there is a need to have an oversight for ATFM” and that “rules to be followed by the different parties” should be determined.

At its 11<sup>th</sup> session in July 2001, the Provisional Council noted the ATFM Action Plan and supported the actions proposed therein.

### **4.3 Provisional Council Resolutions**

Following recommendations by the Performance Review Commission (PRC), the EUROCONTROL Provisional Council adopted several resolutions on ATFM and capacity management that support the current regulatory initiative:

- To request air traffic service providers to adopt a better interaction with the CFMU in order to establish and manage capacity more efficiently, and urged the CFMU to reciprocate accordingly (PC 5, July 1999).
- To reinforce the interactions between airspace planning, capacity planning and flow management so that they can act as one cohesive process (PC8, July 2000).
- To examine the need to extend the ATFM Action Plan to allow it to cover a review of ATFM principles and modes of operation, and to make proposals as appropriate (PC14, July 2002).
- To investigate the feasibility and benefits of applying more tactical Air Traffic Flow Management in Europe following the presentation of the Air Traffic Flow Management Strategy (PC17, July 2003).

### **4.4 11<sup>th</sup> ICAO Air Navigation Conference**

Recommendation 4/3 of the 11<sup>th</sup> Air Navigation Conference<sup>16</sup> addresses Collaborative Decision Making and global demand/capacity balancing. It recommends “that ICAO develops SARPs and procedures for global air traffic flow and capacity management based on the concept of demand/capacity balancing...”. ATFM rules developed by EUROCONTROL could form the basis for such SARPS.

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<sup>15</sup> See reference [18], Chapter 11

<sup>16</sup> See reference [19], Chapter 11

## 5. PROPOSED REGULATORY APPROACH

### 5.1 Introduction

Taking into account the above, the main purpose of the development of ATFM rules will be to contribute to optimising the usage of available airspace capacity through a clear definition of principles of the European ATFM system and of rights and obligations of ATFM actors.

In this perspective, care will be taken to develop the regulatory provisions in close coordination with and in complement to the related EUROCONTROL programmes, in particular the DMEAN (Dynamic Management of Airspace) programme. The regulatory process will focus its objectives on the provision of rules supporting the operational improvements, relying on their operational concepts.

The proposed regulatory approach presented in this document describes the main thrust of possible provisions, as identified at this stage. They are considered to be the most important elements of the future ATFM regulatory framework.

Their main purpose is to:

- foster the further development of air traffic flow and capacity management and define the related role of a central ATFM body (fulfilled by CFMU);
- ensure appropriate exchange of data take place between ATFM actors, notably regarding flight plan filing;
- reinforce *adherence to slots* and other *agreed ATFM measures*;
- foster the use of re-routing as a means to avoid the definition of regulation and/or the ground delay attribution through slot allocation;
- encourage the evolutionary development of Collaborative Decision Making.

During the development of the rules it is also proposed to assess the benefits of establishing a monitoring mechanism with indicators to assess the compliance and the performances of the ATFM processes in applying the regulatory provisions.

### 5.2 Scope and principles of the ATFM Regulatory Initiative

From a geographical and operational point of view, the scope of application of ATFM rules is intended to be pan-European. Legally speaking, as already indicated in section 1.1, draft implementing rules, which will be prepared in response to SES mandates, will respond to European Union's requirements. The scope of draft EUROCONTROL Rules will cover the whole EUROCONTROL area. In addition, they might be proposed in the framework of bilateral agreements with non-EUROCONTROL ECAC countries and possibly with other countries subject to current ATFM ground delays.

The ATFM rules should promote the following principles, already stated in the *ATFCM* strategy<sup>17</sup>:

- Safety/Efficiency/Quality;
- Equity/Fairness; Transparency;
- Cooperative enablers:
  - Participation;
  - Information sharing;
  - Anticipation/pro-activity & Flexibility.

The ATFM rules should define the rights and obligations of parties. The aim would be to create the conditions for an efficient implementation of the principles.

### **5.3 The ATFM Mandate**

The ATFM mandate should include strengthening of the link between ATFM and capacity management in demand/capacity balancing.

Effective capacity management measures agreed at network level between the ATFM actors concerned should reduce the need for traffic restrictions.

Another complementary direction for the extension of the ATFM mandate should be to promote real time ATFM measures, aiming at achieving better traffic synchronisation through dynamic negotiation between ATFM and ATC partners. Possible measures applicable to airborne traffic should include:

- *traffic sequencing*;
- traffic re-routing; and
- flight level change.

The introduction, planned by SES regulations<sup>18</sup>, of Functional Airspace Blocks (FABs) in Europe will create a new context, which will probably impact the way ATFM is organised, notably the balance between central and local functions. The definition of ATFM rules will have to take account of such evolutions.

### **5.4 CMU Network Management Function**

The ATFM function should be coordinated by a *Central Management Unit* (CMU), as referred to in ICAO documents<sup>19</sup>, to be identified by the appropriate regulatory authority. Article 2.1.e of the revised EUROCONTROL Convention<sup>20</sup> requests the Organisation “to develop and operate a common European ATFM system at a common international Centre”, in practice the CFMU.

The CMU should concentrate on fulfilling, as a facilitator, the coordination (or network management) function, excluding any regulatory or supervisory aspect.

The CMU should take an active part in civil/military coordination, in compliance with the implementation of the Flexible Use of Airspace (FUA) concept and in accordance with bilateral and multilateral agreements and with international and national regulatory

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<sup>17</sup> See reference [20], Chapter 11

<sup>18</sup> See reference [4], Chapter 11

<sup>19</sup> See reference [15], Chapter 11

<sup>20</sup> See reference [6], Chapter 11

provisions. The ATFM rules should not therefore interfere with civil/military coordination except in relating the ATFM activities to these existing provisions.

On the basis of the information available at network level, the CMU should be in a position to advise ANSPs on optimal required capacity and related *sector schemes*. However, the final decisions should remain the exclusive responsibility of the ATC function.

The CMU should also be proactive in proposing when required alternative individual measures (e.g. re-routing) to aircraft operators, so as to minimise the impact of demand/capacity imbalance. The final decision should be taken by the aircraft operator, except in situations of *critical events*.

Regarding airspace management coordination, the CMU should advise on possible modifications of the airspace configuration for ATFM reasons. But the final decision for these modifications should remain fully in the remit of the ATS Units.

### **5.5 Exchange of data between ATFM actors**

Each ATFM actor should be granted access by the ATFM rules to timely and relevant information concerning the knowledge of expected and airborne traffic. Specific measures should notably ensure that Initial Flight Plan Information is fully consistent between ATFM, ATC and Aircraft Operators.

Rules should also prevent multiple flight plan filing and request Aircraft Operators to inform the CMU of significant changes to specific parameters (e.g. *EOBT*).

In more general terms the ATFM rules should increase the transparency and awareness necessary to provide each ATFM partner with timely and relevant information. They could then contribute more efficiently to the ATFM processes. The rules should specify the nature, timing and destination of the information to be provided by each actor. This should cover notably the knowledge of available capacity, airspace environment and airspace availability. In particular a single, up-to-date and complete database on the route and traffic orientation information should be made available to the relevant ATFM actors.

### **5.6 Slot Adherence and agreed ATFM measures**

The purpose of ATFM measures is to foster the efficiency of the ATM system. Experience has shown that lack of adherence to these measures can compromise such an objective. The ATFM rules should therefore strengthen compliance with ATFM measures.

This goes notably for ATFM slots: the rules should prescribe that ATFM actors must consider these slots as part of the ATC clearance, and endeavour to stick to them except for safety reasons. Flexibility schemes might be introduced under predefined conditions. In particular the strong platform management constraints of the major airports should be taken into consideration to appreciate the degree of *Slot Adherence*.

Regarding priority rules for access to airspace, the ATFM rules should avoid to be too prescriptive on the practical mechanisms to be used. They should limit themselves to setting principles, notably equity. The current "First Planned First Served" rule should not necessarily be carved in stone but might be described as the current means of compliance. This would allow for more flexible evolution of these priority rules when new mechanisms have been validated.

The various possible ATFM measures should be identified and defined within the ATFM rules. They should be presented as complementary to each other.

To ensure the efficiency of the European ATFM system, an ATFM contact point should be identified within each ATFM actor organisation. The ATFM rules should specify that people staffing these positions should have appropriate qualification.

### **5.7 Collaborative Decision Making**

Collaborative Decision Making (CDM) is the 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 enables decisions about a particular flight to be made according to the latest information available at a given time, thereby enabling the flight to be dynamically optimised to reflect near or real-time events. For instance the link between incoming and departing flights could be used by ATFM for a better traffic forecast.

CDM is still to be further developed<sup>21</sup>. It would therefore not be appropriate to write too specific rules on the subject. The ATFM rules should limit themselves to broad principles, which would pave the way towards increasing use of CDM processes. Better use of *tactical ATFM* re-routing, as mentioned in section 5.4, should be seen as a typical example.

### **5.8 Critical events management**

A critical event is an unusual situation involving a major loss of capacity, or a major increase of *congestion*, or a major failure in the information flow in one or several parts of the European airspace. The definition of the different types of critical events (e.g. low visibility, airport and airspace closure, ATFM contingency, etc.) and associated scenarios are in progress in the context of the ATFCM strategy. To support the ATFM decision making, a number of registered scenarios, together with associated contact points and actions, should be kept available to ATFM partners by the CMU.

The regulatory provisions could include either the definition of the list of critical events, the associated scenarios and associated measures/procedures that ATFM parties are entitled to activate, or a reference to a recorded version of them that could be updated following operational evolution.

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<sup>21</sup> See reference [21], Chapter 11

## **6. IMPLEMENTING THE APPROACH**

### **6.1 General principles**

The proposed approach to ATFM regulation is to lay down principles encouraging all actors concerned to adopt cooperative behaviours. The definition of specific limits to be respected by ATFM actors should additionally take into account necessary enforcement measures. Sanctions should be reserved for repeated violations of the rules.

### **6.2 Oversight Function**

The “Independent study for the improvement of ATFM”<sup>22</sup> and the ATFM Action Plan<sup>23</sup> recommended, inter alia, to consider the creation of an independent “oversight structure” where all stakeholders, including military organisations, could be represented.

Early discussions with the EC indicate that it might be difficult to identify such a specific structure, distinct from the Commission itself and from National Supervisory Authorities (NSAs), which could be given a formal regulatory role. However a proper oversight function could be seen as an enabler for an efficient implementation of ATFM rules.

A possible solution might be to establish a voluntary ATFM self-regulatory body, to which all key categories of ATFM stakeholders would be represented. Its main benefit would be to avoid that too many disagreements between ATFM actors be raised at EC regulatory level. If the EC regulatory level is nevertheless requested to arbitrate a dispute, the findings of the self-regulatory body might also be used as a basis for the formal investigation. Such a self-regulatory body, which would support and complement the NSAs, should be an independent body established within or outside the EUROCONTROL Organisation.

### **6.3 Safety**

The ATFM regulatory approach should ensure that key safety implications had been properly addressed. The safety issues on ATFM should be identified in close consultation with SRC/SRU during the development of the regulatory provisions.

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<sup>22</sup> See reference [7], Chapter 11

<sup>23</sup> See reference [18], Chapter 11

## 7. COMPATIBILITY WITH CURRENT PROVISIONS

### 7.1 ICAO

The ENPRM regulatory process requires that EUROCONTROL rules are compliant with existing ICAO provisions and close contact will therefore be maintained with ICAO during the development of the rules. Proper and transparent complementarity with ICAO provisions will be essential to avoid over-regulation and/or a confusion of regulatory provisions.

ICAO Annexes remain at a high level in respect of ATFM. The provisions describe more generic requirements which will need to be further refined and complemented at a regional level by the EUROCONTROL regulatory approach. For example, ICAO Annex 2<sup>24</sup> specifies the conditions to submit and update a flight plan to ATC units, as well as its content and the conditions for adherence to this flight plan. ICAO Annex 11<sup>25</sup> establishes, inter alia, the basic principles of the current ATFM; in particular it requires the communication of the available capacities and recommends the implementation of restriction measures to traffic when it is above the declared capacity, to avoid delaying too much airborne traffic. Appendix 1 to ICAO Annex 15<sup>26</sup> gives a brief description of ATFM and the requirements for the publication and update of flight planning.

EUR Doc 4444<sup>27</sup> considers Capacity Management and ATFM again in high level terms, and the use of Regional Supplementary Procedures is prescribed. The document EUR ANP/FASID Doc 7754<sup>28</sup>, the ATS Planning Manual Doc 9426<sup>29</sup> and the Regional Supplementary Procedures EUR SUPPs Doc 7030<sup>30</sup> are in the process of being modified at ICAO level. The most substantial ICAO provisions in matter of European ATFM are those of Doc 7030 (in its proposed revised version currently under consideration by ICAO). The procedures of flight plan submission and revision are defined in Doc 7030, referring to the EUROCONTROL "Basic CFMU Handbook"<sup>31</sup> for detailed procedures. These modifications, not yet formally accepted, but having reached a mature stage, will be taken into account in any EUROCONTROL regulatory developments to ensure compatibility.

### 7.2 Compatibility with SES

The regulatory approach must also take full account of the SES requirements<sup>32</sup> and links with relevant articles of the SES regulations (notably Article 9 of the Airspace Regulation<sup>33</sup>) will be identified during ATFM rules development.

ATFM rules should provide the basis for draft SES implementing rules for ATFM. Extensive care will be required to maintain consistency with the essential requirements and other implementing rules, in particular those concerning Flight Data and Interoperability.

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<sup>24</sup> See reference [22], Chapter 11

<sup>25</sup> See reference [13], Chapter 11

<sup>26</sup> See reference [23], Chapter 11

<sup>27</sup> See reference [14], Chapter 11

<sup>28</sup> See reference [15], Chapter 11

<sup>29</sup> See reference [24], Chapter 11

<sup>30</sup> See reference [16], Chapter 11

<sup>31</sup> See reference [25], Chapter 11

<sup>32</sup> See reference [2], [3], [4] and [5], Chapter 11

<sup>33</sup> See reference [4], Chapter 11

## 8. BENEFITS OF REGULATION

The first benefit of ATFM rules would be to establish clear principles with proper regulatory status applicable to all actors, contrary to existing situation where they are rather considered as “rules of the game”, acknowledged but not systematically applied.

These ATFM rules would provide a European-specific description of the application of related ICAO provisions at European level, with no discrepancy amid Member States.

The statement of the principles to be applied in ATFM, of the respective roles of ATFM actors, of their rights and obligations, would ascertain their common understanding and clarify the responsibilities, fostering further efficiency of the system.

The extension of the ATFM mandate towards Capacity Management would allow a stronger link between these two functions. This would strengthen the link between capacity provision and use of capacity to provide for a more efficient demand/capacity balancing in all ATFM phases.

The extension of the mandate towards real-time ATFM measures should allow to monitor the real-time network situation and to take it into account for ATFM decisions. The CMU could also propose corrective measures in case of strong discrepancy between expected and actual traffic.

Concerning ATFM slots, the regulatory measures are mainly expected to contribute to a better compliance to these slots. Indeed the non-compliance that reaches up to 40% in some of the larger coordinated airports degrades the quality of the forecast of any sector congestion. This decreases by the same amount the hourly capacity provided by the ACC, due to the uncertainty.

A significant reduction of this uncertainty seems achievable by strengthening Slot Adherence, and also by giving a contractual status to the agreed ATFM measures (e.g. re-routing) as a whole. A study on the impact of reducing the uncertainty on slots and on flight plans is planned by the CFMU and supported by the RU. The study should provide a better evaluation of the impact of slot enforcement in terms of delay reduction. The result of this study is expected to be available before the issue of the detailed ATFM rules proposal. It is expected that a better compliance should result in increased declared capacities. The introduction of some levels of tolerance defined in the means of compliance would preserve the necessary flexibility.

The establishment of a monitoring mechanism of compliance and performances in the implementation would introduce more transparency and encourage improved efficiency. Moreover it should allow further analysis to check compliance or to detect weaknesses in the process.

The measures related to the consistency of the Initial Flight Plan and the provision to each ATFM partner with timely and relevant information would contribute to integrate the ATFM data with the overall ATM data, with a positive impact on safety and efficiency. This would also result in obtaining more consistency between ATM processes and in increasingly seamless operations.

The introduction of a voluntary ATFM self-regulatory body would ease the implementation by avoiding that too many disagreements between ATFM actors be raised at EC regulatory

level, and by providing it, if needed, with a first technical analysis and associated solution proposal to the dispute.

## **9. NEXT STEPS**

Following the 3 months A-ENPRM comments period, it is anticipated that a further 3 months will be necessary to assess the comments, further develop the Regulatory Impact Assessment (RIA)<sup>34</sup> and propose a plan for further regulatory development. The objective should be to have a first set of rules developed by early 2005, depending on SES requirements.

In accordance with the ENPRM regulatory process, the rules will be developed through extensive internal/external consultation with affected parties, including military stakeholders, and other experts as appropriate. This should not be limited to EUROCONTROL and ECAC Member State areas, and should be extended, where necessary, to involve other stakeholders whose input was considered important to the efficient development and effective implementation of the rules.

## **10. SUBMITTING COMMENTS**

You are invited to submit your comments on this discussion paper and specifically the proposed regulatory approach using the pro-forma provided at Enclosure 2. Your comments will be taken into account in the drafting of the final regulatory provisions.

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<sup>34</sup> See reference [9], Chapter 11

## 11. REFERENCES

- [1] EUROCONTROL Notice of Proposed Rule-Making (ENPRM) Regulatory Process; Annex to PC/01/11/6; July 2001
- [2] Draft Regulation (EC) 2001/0060(COD) No C5-0603/2003 of the European Parliament and of the Council of laying down the framework for the creation of the Single European Sky (“the Framework Regulation”); PE-CONS 3690/03; 11 December 2003
- [3] Draft Regulation (EC) 2001/0235(COD) No C5-0604/2003 of the European Parliament and of the Council on the provision of air navigation services in the Single European Sky (“the service provision Regulation”); PE-CONS 3691/03; 11 December 2003
- [4] Draft Regulation (EC) 2001/0236(COD) No C5-0605/2003 of the European Parliament and of the Council on the organisation and use of the airspace in the Single European Sky (“the airspace Regulation”); PE-CONS 3692/03; 11 December 2003
- [5] Draft Regulation (EC) 2001/0237(COD) No C5-0606/2003 of the European Parliament and of the Council on the interoperability of the European Air Traffic Management (“the interoperability Regulation”); PE-CONS 3693/03; 11 December 2003
- [6] EUROCONTROL Revised Convention (including text of 1981 Amended Convention); June 1997; September 1997 Edition
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## 12. DEFINITIONS OF TERMS AND ACRONYMS

The two lists of tables of this appendix provides respectively definitions of main ATFM-related terms and acronyms used in the A-ENPRM. The definition are often extracted from the draft ICAO EUR Facilities and Services Implementation Document (FASID: ICAO Doc 7754, Volume 2) glossary (Appendix B).

### 12.1 List of Air Traffic Flow Management terms

<b>Agreed ATFM measure</b>	An ATFM measure that has been agreed between all ATFM partners concerned.
<b>Air Traffic Flow and Capacity Management (ATFCM)</b>	ATFM extended to 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 collaborative decision making process.
<b>Air Traffic Flow Management (ATFM)</b>	A function established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that air traffic control capacity is utilized to the maximum extent possible, and that the traffic volume is compatible with the capacities declared by the appropriate air traffic services providers (Single European Sky definition).
<b>Air Traffic Volume</b>	The number of aircraft within a defined airspace or aircraft movements at an aerodrome, within a specified period of time.
<b>ATFM contingency</b>	A failure of one or more of the central management unit components.
<b>ATFM measure</b>	Action taken to accomplish air traffic flow management.
<b>ATFM Slot</b>	Calculated Take Off Time (CTOT) issued by the CMU.
<b>ATFM Slot Allocation</b>	An ATFM measure implemented by means of a departure slot in order to balance traffic demand against available ATC capacity.
<b>Capacity [for ATFM purposes]</b>	The operationally acceptable volume of air traffic.
<b>Capacity management</b>	Management of the number and/or the configuration of sectors, of the review of capacity value, of the activation of holding patterns, and of the balancing of arrival and departure capacity.
<b>Central Management Unit (CMU)</b>	A centralised unit providing air traffic flow management services within a specified area of responsibility
<b>Collaborative Decision Making (CDM)</b>	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.
<b>Congestion</b>	Situation in which air traffic demand exceeds capacity in one or several regulated sectors during a particular period.

<b>Critical event</b>	Sudden and usually unforeseen event leading to a high drop in ATFM capacity, involving many partners and requiring immediate action to minimise consequences and to retrieve network stability.
<b>Flight Plan Filing</b>	The submission of a flight plan, excluding repetitive flight plans, to an appropriate authority.
<b>Flow Management Position (FMP)</b>	A working position established in appropriate air traffic control units to ensure the necessary interface with a central management unit on matters concerning the provision of the air traffic flow management service.
<b>Re-Routing [ATFM]</b>	An ATFM measure which requires an aircraft operator to file an alternate route/flight level in order to resolve ATC capacity problems and minimise delays.
<b>Sector schemes</b>	Choice, among a list of predefined solutions, of a possible configuration of sectors for a piece of airspace and for a time interval.
<b>Slot Adherence</b>	Compliance with a CTOT by the aircraft operator and ATC.
<b>Tactical ATFM</b>	ATFM measure(s) applied on the day of operation, e.g. re-routing, slot allocation, etc
<b>Traffic sequencing (for ATFM)</b>	The process of establishing specific separation constraints in distance or time between successive aircraft along specific paths in the route network, with the objective to guarantee that the minimal distance or duration of separation can be reached on subsequent points of flow convergence. This is also called miles-in-trail or time-in-trail.

## 12.2 List of acronyms

<b>ANP</b>	Air Navigation Plan
<b>ANS</b>	Air Navigation Service
<b>ANSP</b>	Air Navigation Service Provider
<b>AO</b>	Aircraft Operator
<b>ATC</b>	Air Traffic Control
<b>ATFCM</b>	Air Traffic Flow and Capacity management
<b>ATFM</b>	Air Traffic Flow Management
<b>ATM</b>	Air Traffic Management
<b>ATS</b>	Air Traffic Services
<b>ATSU</b>	Air Traffic Service Unit
<b>CFMU</b>	Central Flow Management Unit
<b>CMU</b>	Central Management Unit
<b>CTOT</b>	Calculated Take-Off Time
<b>EOBT</b>	Estimated Off-Block Time
<b>FMP</b>	Flow Management Position