International Civil Aviation Organization

The Twenty-First Meeting of the APANPIRG ATM/AIS/SAR Sub-Group (ATM/AIS/SAR/SG/21)

Bangkok, Thailand, 27 June – 01 July 2011

Agenda Item 5: Review of other relevant meetings

FIRST MEETING OF THE ASIA/PACIFIC ATFM STEERING GROUP (ATFM/SG/1)

(Presented by the Secretariat)

SUMMARY

This paper presents the outcomes of the First Meeting of the Asia/Pacific Air Traffic Flow Management Steering Group (ATFMSG/1), held in Tokyo, Japan from 8-10 December 2010.

This paper relates to –

Strategic Objectives:

A: ***Safety*** *– Enhance global civil aviation safety*

C: ***Environmental Protection and Sustainable Development of Air Transport*** *– Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

GPI-1 Flexible use of airspace
GPI-6 Air traffic flow management
GPI-7 Dynamic and flexible ATS route management
GPI-10 Terminal area design and management
GPI-12 Functional integration of ground systems with airborne systems
GPI-13 Aerodrome design and management
GPI-14 Runway operations
GPI-15 Match IMC and VMC operating capacity
GPI-16 Decision support systems and alerting systems

1. INTRODUCTION

1.1 The ICAO Asia/Pacific Air Traffic Flow Management (ATFM) Seminar/Workshop, graciously hosted by the Japan Civil Aviation Bureau (JCAB), Ministry of Land, Infrastructure, Transport and Tourism was held at the ACROS FUKUOKA Convention Centre, Fukuoka, Japan from 7 to 9 October 2008.

1.2 The Seminar/Workshop was created in response to the increasing ATFM activities regionally and the provisions of GPI- 6 Air Traffic Flow Management. The Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/18, September 2007) adopted Conclusion 18/7 for the conduct of a regional ATFM Seminar during 2008.

Conclusion 18/7 − Conduct Regional ATFM Seminar

That, noting the provisions of GPI- 6 Air Traffic Flow Management and the increasing numbers of actual and planned ATFM implementations occurring in the Asia/Pacific Region, the ICAO Asia/Pacific Regional Office conduct, with assistance from States experienced in ATFM, a 3-day Air Traffic Flow Management Seminar during 2008.

1.3 APANPIRG/20 (Bangkok, Thailand, 7 – 11 September 2009) considered the outcomes of the ICAO Asia/Pacific ATFM Seminar/Workshop and adopted the following Conclusion:

Conclusion 20/11 − ATFM Steering Group and Concept of Operations

That a regional ATFM Steering Group be constituted and tasked with preparing an Asia/Pacific Regional ATFM Concept of Operations based on analysis of regional data and traffic flows. The ATFM Steering Group should consider the outcomes and recommendations from the October 2008 ATFM Seminar/Workshop (Fukuoka, Japan) and information about the CAR/SAM ATFM Project contained in IP/3 to APANPIRG/20 as guidance in deriving its Objectives and Terms of Reference.

1.4 The First Meeting of the Asia/Pacific Air Traffic Flow Management Steering Group (ATFMSG/1) was held at "Mita-kaigisho" in Tokyo, Japan from Wednesday, 08 to Friday, 10 December 2010. The meeting was attended by 23 participants from Hong Kong China, Japan, Philippines, Republic of Korea, Singapore, Thailand, United States and IATA.

2. DISCUSSION

Development of Terms of Reference

2.1 The Meeting reviewed the following material and discussed the Draft Terms of Reference (TORs) for any future ATFM forum:

- *Report of the ICAO Asia/Pacific Air Traffic Flow Management Seminar/Workshop* (2008);
- *Report of the CAR/SAM Air Traffic Flow Management (ATFM) Regional Project for Latin America*; and
- *Doc 9426 Air Traffic Services Planning Manual* (excerpt from Chapter 1, Air Traffic Flow Management and Flow Control).

2.2 Meeting participants did not believe that the Steering Group should be delving into a detailed analysis of air traffic service (ATS) routes, or ATFM systems, with a view to assessing their appropriateness. This was considered to be the role of States, in conjunction with bi-lateral or multi-lateral coordination, which could be most effectively achieved through a sub-regional Air Traffic Management (ATM) Coordination Group. IATA further stated that the Steering Group should not delve into State to State ATFM issues. The meeting agreed that the Steering Group was a high level forum, which provided regional guidance material and regional ATFM policies.

2.3 Notwithstanding the uncertainty whether it was necessary for the Steering Group to meet again (because there did not appear to be an immediate task to complete), the draft TORs were modified and agreed accordingly. A copy of the draft TORs as endorsed is appended as ***Appendix A.***

Review of Relevant Meetings/Information

2.4 The meeting had a broad discussion on the current status of APAC Region ATFM initiatives which included the following initiatives:

- Australia was utilizing a Required Time of Arrival (RTA) scheme at Sydney;
- The Philippines would initially implement an Airport/Aerodrome ATFM for Manila after Trial Operations in 2011;
- Hong Kong, China had ATFM procedures, which were principally used during the typhoon season.
- Thailand was operating the BOBCAT slot management system used on Major Traffic Flow (MTF) AR-4 to alleviate traffic loading through Afghanistan; and
- The United States and Japan operated a formalized ATFM system to manage the North Pacific (NOPAC) routes (Russia would be involved in ATFM coordination with the USA in the near future).

ATFM Concept of Operations

2.5 Meeting participants considered that each of the MTF should have ATFM planning, regardless of traffic density, to cater for contingency operations in addition to traffic loading. The meeting noted that:

- MTF review was useful and it did not always have to be a formalized process;
- ATFM data should not include sensitive commercial or security information; and
- ATFM study should be focused on sub-regional strategies that supported the MTF, rather than a detailed regional ATFM concept, which may be difficult to achieve.

2.6 While further discussing the CAR/SAM ATFM Project principles, it was noted that this project was focused on actual ATFM implementation, so references to implementation such as training were not considered to be relevant to the APAC Concept of Operations. The meeting also did not agree with references to ATFM priorities being on a first-come, first serve basis, as there were many instances where priorities based on economic necessity were in place (such as scheduled passenger carrying jets having priority over smaller non-scheduled aircraft).

2.7 Meeting participants emphasized that ATFM measures were a positive, designed to optimize airspace and aerodrome capacity, especially in support of Seamless ATM initiatives. Thus, ATFM was viewed as maximizing capacity and minimizing inefficiencies.

2.8 The meeting agreed that civil/military coordination was a key enabler to effective ATFM, as was a common language for expressing ATFM measures, which must be concise in nature and not verbose. It was noted that aerodrome operators had a role to play in ATFM Collaborative Decision-Making (CDM).

2.9 The USA presented information on their ATFM activities, including an overview of the specialized software tools that were being utilized. Details of the software tools are available in **Attachment A** to this paper.

2.10 The USA also provided information on their Traffic Management Initiatives (TMI). The TMIs were important tools for managing the air traffic system, provided they are coordinated and applied properly. TMIs were required when it was necessary to manage imbalances in air traffic demand and system capacity, recognizing that they have a consequence to stakeholders. The United States noted that it was important to consider this and implement only the necessary initiatives for maintaining the integrity of the system. Therefore, traffic management personnel should employ the least restrictive methods available in order to mitigate imbalances. The TMI are detailed as follows.

Name	**Description**
Airspace flow programs (AFP)	An AFP allows for formal Departure Control Times to be issued to flights traversing a predefined area of airspace that is congested or constrained by severe weather or traffic congestion. This is essentially a GDP for airspace as opposed to an airport and controls entry/exit times into the impacted airspace
Ground delay programs (GDP)	Aircraft are held on the ground to control their departure time in order to manage capacity and demand at a specific airport. Assigning a departure time, with the know enroute time to the airport controls the arrival time at the impacted airport. The purpose of the program is to limit airborne holding and possible diversions.
Ground stops (GS)	GS is a process that requires aircraft that meet specific criteria to remain on the ground. Since this is one of the most restrictive methods of traffic management, alternative initiatives should be explored and implemented if appropriate. GSs should be used: • in severely reduced capacity situations (below most user arrival minimums, airport/runway closed for snow removal, or aircraft accidents/incidents); • to preclude extended periods of airborne holding; • to preclude sector/center reaching near saturation levels or airport grid lock; • in the event a facility is unable or partially unable to provide ATC services due to unforeseen circumstances; and • when routings are unavailable due to severe weather or catastrophic events.
Miles-in-trail (MIT)	The number of miles required between aircraft that meet a specific criteria. The criteria may be separation, airport, fix, altitude, sector, or route specific. MIT are used to apportion traffic into manageable flows, as well as to provide space for additional traffic (merging or departing) to enter the flow of traffic.
Minutes-in-trail (MINIT)	The number of minutes required between successive aircraft. It is normally used in a non-radar environment, or when transitioning to a non-radar environment, or when additional spacing is required due to aircraft deviating around weather.

2.11 Japan made two presentations, one on their CARATS ATFM system and the other on CDM (Collaborative Decision-Making) techniques used in Japan.

Development of ATFM/SG Task List

2.12 The meeting discussed the Draft APAC ATFM Concept of Operations, which was drafted by the Secretariat. After extensive review, participants endorsed a modified text that the ATFMSG/1 considered fulfilled the task of a Regional Concept of Operations, which is appended as ***Appendix B*.**

2.13 There did not appear to be any outstanding tasks for the Steering Group, so a formal Task List was not developed.

Date and Venue for the next meeting

2.14 The meeting did not discuss the matter of the next meeting date and venue as it was not clear whether the Steering Group would meet again in the near future, given that there were no immediate tasks.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) discuss and agree that the ATFM SG was a high level forum, which provided regional guidance material and regional ATFM policies;

b) discuss and agree with the draft ATFM SG ToR at Appendix A;

c) discuss and agree with the draft APAC ATFM Concept of Operations at Appendix B, noting that this material is expected to be placed on the APAC website;

d) note the information contained in this paper; and

e) discuss any relevant matters as appropriate.

…….

Appendix A: ATFM SG Draft Terms of Reference

Having considered Doc 9426 guidance material, regional air traffic data and the Major Traffic Flows (MTF), and noting that capacity-increasing measures have preference to use of ATFM:

a) develop and maintain an Asia/Pacific Regional ATFM Concept of Operations;

b) review and develop ATFM communications procedures, such as the *ATFM Communications Handbook for the Asia Pacific Region*;

c) encourage and develop mechanisms for ATFM data gathering, collation and sharing between States, International Organizations and ICAO;

d) encourage and support the development of integrated sub-regional ATFM systems, including any adjacent airspace affecting the Asia and Pacific Regions; and

e) encourage the development of collaborative decision-making processes, which could be partly fulfilled by the development of an ATFM web site by Asia and Pacific Region States with significant experience in ATFM.

The membership of the ATFMSG is open to any participants from Asia and Pacific Region States, International Organizations and ICAO.

Appendix B: Asia and Pacific Regional ATFM Concept of Operations

1. BACKGROUND

1.1 As a result of increasing regional Air Traffic Flow Management (ATFM) activities and the provisions of GPI- 6 (ATFM), the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/18, September 2007) adopted Conclusion 18/7 for the conduct of a regional ATFM Seminar. The ICAO Asia/Pacific ATFM Seminar/Workshop was hosted at Fukuoka, Japan by the Japan Civil Aviation Bureau (JCAB), Ministry of Land, Infrastructure, Transport and Tourism from 7 to 9 October 2008.

1.2 As a result of the ATFM Seminar and Workshop, APANPIRG/20 (Bangkok, September 2009) made the decision to constitute an ATFM Steering Group (ATFMSG/1), which was also held in Japan at Tokyo, from 8 to 10 December 2010. One of the key deliverables from the ATFMSG/1 was expected to be a Regional ATFM Concept of Operations.

1.3 It was considered inappropriate at the ATFMSG/1 for the Regional ATFM Concept of Operations to closely analyse specific Major Traffic Flows (MTF) or to determine actual ATFM systems to be used on these flows, as this would impinge upon the individual State responsibilities to determine the type and level of air traffic service (ATS). Moreover, States have a greater knowledge of the operational requirements, limitations and safety risks of any given airspace that they provide ATS within. In addition, Air Traffic Management Coordination Groups (ATMACG) are better placed to closely monitor and assess the need for ATFM measures within sub-regions (such as the NOPAC - North Pacific), recognising that these are more likely to be implemented on MTFs and not on a regional basis.

1.4 For these reasons, the ATFMSG/1 developed this Regional ATFM Concept of Operations based on broad principles and recommended practises that are intended to provide a framework for desired regional outcomes. Moreover, it was considered that optimal ATFM is a subset of a seamless Air Traffic Management (ATM) system, so further development of the Regional ATFM Operational Concept should be considered within the context of the Seamless ATM Concept.

2. ATFM CHARACTERISTICS

2.1 The ATFMSG/1 recognized that ATFM had a number of important characteristics, which are detailed as follows.

a. ATFM is intended as a win-win enabler, to ensure the ATM system is compatible, balances capacity, and is responsive to user needs. ATFM supports the introduction of new technologies (such as probabilistic meteorological forecasting and ATS sector capacity assessment tools) and procedures that enhance airspace capacity.

b. ATFM is evolutionary in nature, in order to manage a changing aeronautical environment. Thus the nature of ATFM is one of a system that is constantly reviewed in terms of the airspace, ATS routes and aerodromes, and the ATFM system effectiveness itself.

c. ATFM is integral to world economies, as it maximises aviation economic efficiencies and returns, in turn supporting many other economic sectors such as tourism and freight carriage. ATFM supports predictability in terms of inventories, and the efficient carriage of passengers and freight.

d. ATFM assists international cooperation, leading to an optimal seamless ATM environment.

e. Even relatively simple ATFM systems such as slot management can be as effective as complex systems, to enable systems to cope with unexpected capacity deficiencies.

f. ATFM traffic data analysis can yield significant strategic benefits, especially when used in conjunction with airspace and ATS route planning, in terms of future ATM systems and procedure improvements. This is part of a continuous safety and service improvement loop (Figure 1).

g. Collaborative Decision-Making (CDM), as part of ATFM, ideally involves people skilled in facilitation.

h. CDM is about sharing knowledge, which allows an understanding of user and ATM requirements, in order to achieve buy-in, cooperation, and predictability. In effect, CDM allows the system to work smarter, not harder.

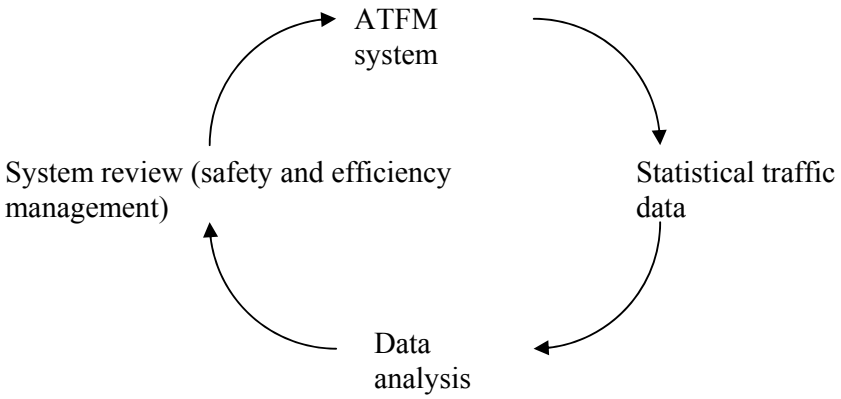


Figure 1: ATFM Cycle of Review and Improvement

3. REGIONAL ATFM OBJECTIVES

3.1 Asia and Pacific Regional ATFM has the following objectives:

a. without compromising safety, to ensure an optimum flow of air traffic during times when demand exceeds, or is expected to exceed, available capacity of the air traffic control (ATC) system (Doc 9426*);

b. to ensure the maximum utilisation of airspace, and balance the legitimate, but sometimes conflicting, requirements of all users (Doc 9426);

c. to develop a seamless and harmonised ATM system and ensure compatibility with international developments (CAR/SAM ATFM Project, Doc 9426);

d. to ensure that optimum capacity is provided in a flexible and timely manner (CAR/SAM ATFM Project); and

e. to minimise inefficiencies that affect ATM capacity (ATFMSG/1).

*Note: references in this document are not necessarily copied verbatim from the source, but have been amended in a minor manner from the original to ensure it is up-to-date, readable and in the correct context.

4 REGIONAL ATFM PRINCIPLES

4.1 ATFM in the Asia and Pacific Regions is expected to be implemented in accordance with the following principles:

a. ATFM must seek to optimise available aerodrome and airspace capacity without compromising safety (CAR/SAM ATFM Project);

b. ATFM must seek to balance the financial impact on stakeholders with safety, and operational and technical benefits, taking into account global interoperability (CAR/SAM ATFM Project);

c. ATFM applications must be consistent with the ICAO Regional Air Navigation Plan (CAR/SAM ATFM Project);

d. ATFM must entail timely and effective co-ordination with affected parties, including ATC units, aircraft operators, military authorities and aerodrome operators as appropriate. Civil/military co-ordination ideally results in airspace being shared, either simultaneously or on a time-share basis. ATFM must take into consideration the requirements of the military, law enforcement, and search and rescue (Doc 9426).

e. Military aircraft operating as general air traffic should be subject to ATFM (CAR/SAM ATFM Project).

f. ATFM recognises that airspace is a common resource for all users, ensuring fairness and transparency, while taking into account security and defence needs (CAR/SAM ATFM Project).

5. RECOMMENDED PRACTICES

a. ATFM planning should be prioritised for appropriate major sub-regional traffic flows, instead of a focus on regional ATFM. ATFM WS and ATFMSG

b. December traffic sample data used by all States to satisfy airspace safety monitoring analysis may be utilised for airspace planning and implementation purposes. APANPIRG 20

c. Recognising that the most efficient utilization of available airspace and airport capacity can be achieved only if all relevant elements of the air traffic system had been considered during the planning stage, applying a systems approach (Doc 9426). Quantitative data should be moderated by qualitative assessment using subject matter experts to ensure the following factors, inter alia, are taken into account:

- airspace and airway complexity, structure and volume;
- adjoining ATC sectors;
- amount of climbing/descending traffic;
- terrain;
- military operations; and
- special use airspace. ATFM Survey/ATFMSG

d. When flow management measures are necessary for certain areas, they should be applied in a timely manner only for the period when expected air traffic demand will exceed the capacity in those areas. ATFM measures should be kept to the minimum and, whenever possible, be applied selectively only to that part of the system that is constrained (Doc 9426).

e. Advance information on overload situations should be provided to ATC and aircraft/aerodrome operators (Doc 9426).

f. Relevant air traffic statistics should be generated in order to promptly identify bottlenecks in the system (Doc 9426). Accurate and timely data should be continuously available to support implementation and ongoing ATFM operations in the form of:

- Static data identifying historical traffic loadings, for use as strategic planning and trend analysis, and
- Dynamic real-time data used for the tactical management of traffic in terms of commencement of ATFM measures (ATFM Workshop/Seminar);

g. Flow control measures should be established and coordinated in such a way that they will not cumulatively interact with each other on the same flights (Doc 9426);

h. The following types of flights should be granted exemption from flow control measures:

- emergency flights, including aircraft subjected to unlawful interference;
- flights operating for humanitarian reasons;
- medical flights specifically declared by medical authorities;
- flights on search and rescue missions;
- flights with "Head of State" status; and
- other flights as specifically required by State authorities (Doc 9426).

i. The use of appropriate automated tools should allow effective application of ATFM (ATFM Workshop/Seminar);

j. Formalised CDM should be utilised to promote increased information sharing, awareness and acceptance (ATFMSG/1);

k. States should ensure the use of the English language in a concise, non-verbose manner in ATFM operations, utilising the *Air Traffic Flow Management Communications Handbook for the Asia/Pacific Region* (ATFMSG/1)*;*

l. Whenever measures to control the flow of air traffic have to be applied in the form of delays, they should, if possible, be applied by ATC to aircraft on the ground rather than to aircraft in flight (Doc 9426).

m. Whenever application of ATFM in the form of delays to airborne aircraft becomes unavoidable, the flights concerned should be informed as soon as possible (Doc 9426).

n. The ATFM service should have the following basic strategic and tactical functions:

- collection, collation and analysis of data on air traffic, the air navigation infrastructure and on the capacities of the ATS system and selected aerodromes (Doc 9246);
- determination of available airspace, ATS and aerodrome capacity (ATFMSG/1);
- determination of a coherent picture of expected traffic demand (Doc 9426);

- identification of areas and time periods of expected critical traffic loadings (Doc 9426); and
- in order to accommodate the growth of air traffic, an appropriate ATFM plan should be established, aimed at optimising the airspace utilisation (Doc 9426).

6. GUIDANCE MATERIAL

6.1 Additional ATFM Guidance Material may be derived from the following sources:

a. ICAO Annex 11 (Section 3.7.5)

b. ICAO Doc 4444 (Section 3.2);

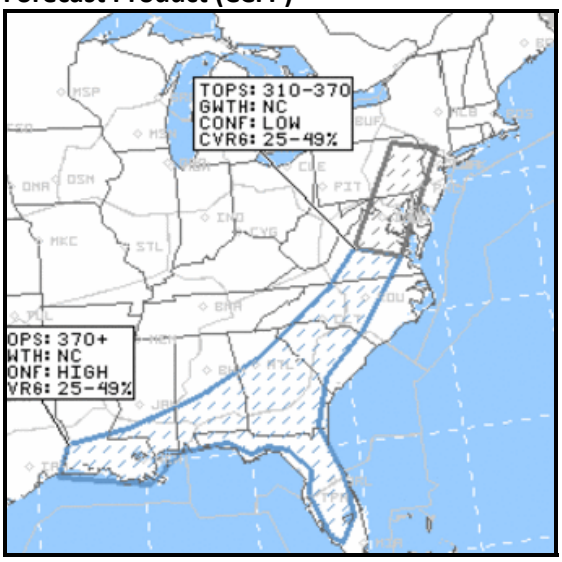
c. ICAO Doc 9426 (Part II, Chapter 1);

d. ATFM Communications Handbook for the Asia/Pacific Region (*http://www.bangkok.icao.int/edocs/ATFMComms_Handbook.pdf*); and

e. FAA ATFM web site (http://www.fly.faa.gov).

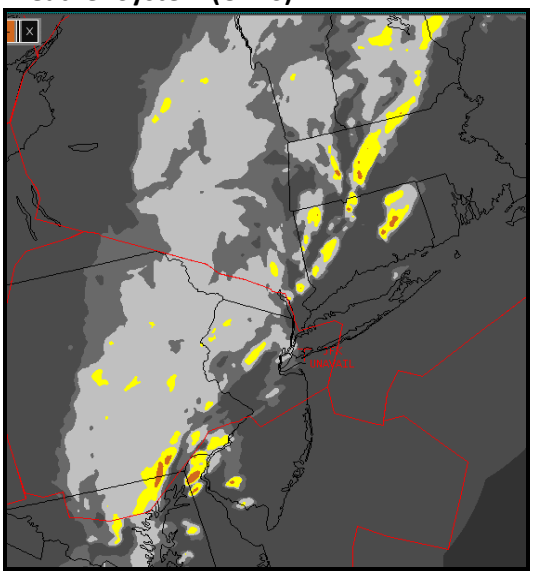
Flight & Weather Data
Common Situational Awareness
Decision Support Tools for Proactive Flight & Weather data
Common understanding

Collaborative Convective Forecast Product (CCFP)



- **Probabilistic**
- **2, 4, and 6 hour**
- **2 hour update rate**
- **March – Oct. only**
- **Areas depict regions of forecast weather with coverage and confidence**
- **Strategic decision aid**

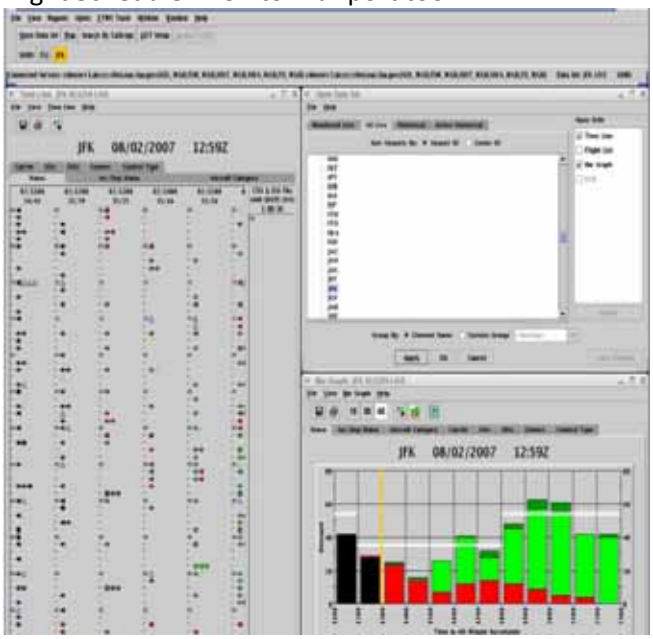
Corridor Integrated Weather System (CIWS)



- **Deterministic**
- **0-2 hour**
- **5 min update rate**
- **24/7/365 availability**
- **High resolution (1 km)**
- **Areas depict forecast weather**
- **Tactical decision aid**

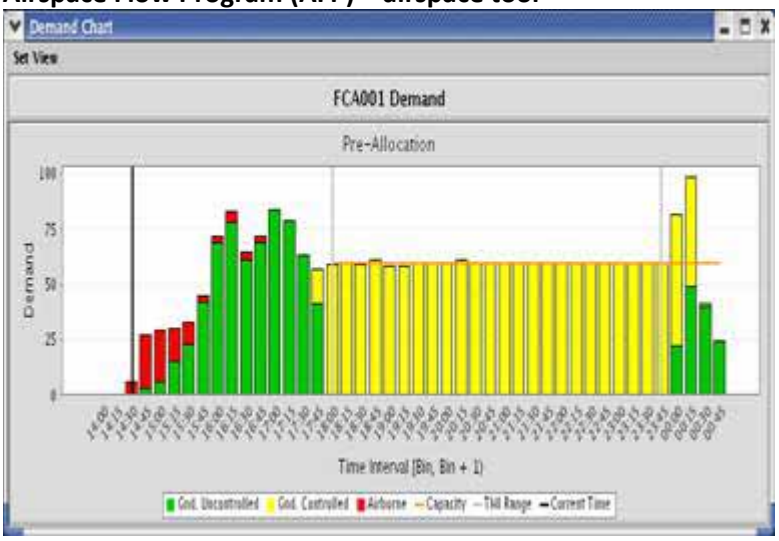
Monitor flows, predict delays, optimize responses -Enroute & Airport Flow Tools for flow management

Flight Schedule Monitor –airport tool



Allow assignment of departure delays in an automated format based on agreed upon algorithms ensuring fairness and equitability in assignment of delays among stakeholders

Airspace Flow Program (AFP) – airspace tool

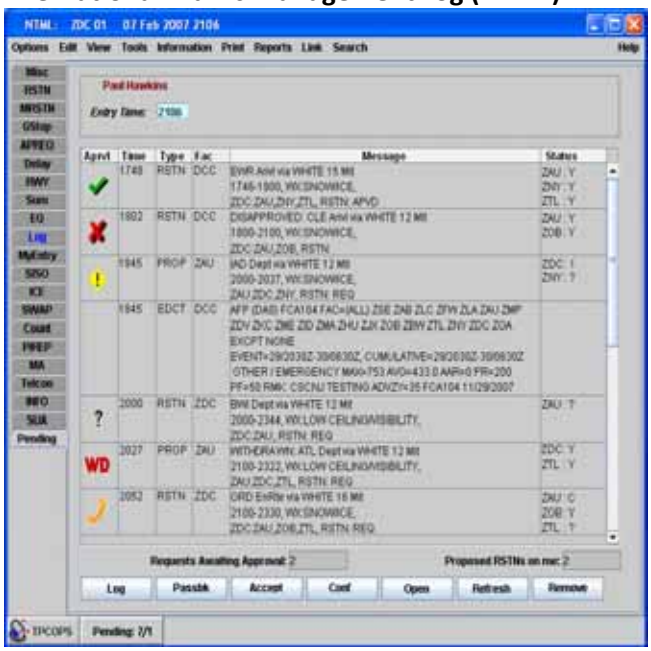


The **Airspace Flow Program (AFP)** allows for formal Control Times to be issued to flights traversing a predefined area of airspace that is congested or constrained by severe weather or traffic congestion, while more accurately defining which flights need to be controlled.

Flight Planning changes, OIS & NTML Mgmt. Tools

- **Optimized plans**
- **Shared info & responses to System impacts**

The National Traffic Management Log (NTML)



provides single-point, automated collection, and real-time distribution of National Airspace System (NAS) operational data over the Traffic Flow Management System (TFMS). It modernized the previous FAA process for entering local traffic management facility operational data into multiple systems. We push this info to numerous systems, numerous stakeholders and some of it ends up on a web page which educates the flying public to issues in the Airspace system.

The Operational Information System (OIS)

NATIONAL PROGRAMS (Help)

CONTROL ELEMENT	START	END	SCOPE	REASON	AVG	AAR	PR	ADVZY
EWR	1800	0259	NOWEST+CZY_AP	WEATHER/LO CIGS	36	44	44	054
LGA	1400	0459	ALL+CZY_AP	WEATHER/LOW CIGS	33	38	38	037
PHL	1739	0159	NOWEST+CZY_AP	WEATHER/LOW CIGS	28	48	48	050

GROUND STOPS (Help)

ARPT	UPDATE	POE	SCOPE	REASON	ADVZY

DELAY INFO (Help)

ARPT	AD	DD	TIME	REASON
IAH	+15		2009	WX EN RTE

AIRPORT CLOSURES (Help)

ARPT	TIME	REASON	REOPEN

DEICING (Help)

ARPT	AAR/ADR	TIME

Runway/Equipment Info (Help)

This is not a complete list of Runway/Equipment Status. Please consult the current NOTAMs for complete information.

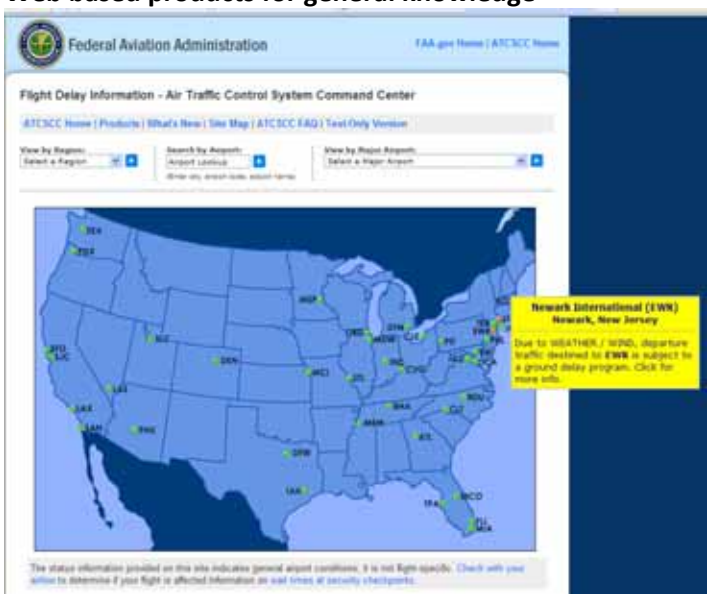
Facility	Description

MISCELLANEOUS

OP GRAPHICS AVAILABLE VIA CENTRA DURING TELCONS 1215Z-2215Z. CUSTOMERS HTTP://192.90.22.152 FAA-HTTP://10.112.23.151 FOR HELP CONTACT ATCSCC TECH SUPPORT @ (703)904-4434

provides real-time airport delay information as it is received from FAA facilities. The OIS system is a Web-based application that displays Ground Delay, Ground Stop, Deicing, and general airport delay information.

Web based products for general knowledge



- **Web application available to communicate with delays with FAA, Airlines, Military, and General public.**
- **Delay information automatically displayed and allows manual input**
- **XML version of data for news providers (Weather Channel, CNN, etc.)**

Feed by info from OIS and NTML

Event Analysis Tools for Real-time & historical performance

The Integrated Reporting Information System (IRIS)

Designed specifically to support post operations analysis and reporting of National Airspace System (NAS) performance by providing both high level information and statistics and the ability to drill-down to view flight details, flight tracks, flight plan history, and Traffic Flow Management System (TFMS) message history. IRIS supports the Collaborative Decision Making (CDM) community in its reporting and analytical efforts to eliminate unnecessary delay by identifying ways to improve program performance.

The Flight Schedule Analyzer (FSA)

LGA Performance

Flight List Generated at 1916z on 09/07/2006

Original Start Time: 16:00z

Hour	1600	1700	1800	1900	2000	2100	2200	2300	0000	0100
FSM Program Rate	**38**	**38**	**38**	**38**	**43**	**43**	**43**	**43**	**43**	**43**
Number of Assigned Slots	34	33	38	37	43	43	43	43	43	43
Flights Controlled by Another Initiative	0	0	0	0	0	0	0	0	0	0
Cancellations	-1	-0	-0	-1	-0	-0	-0	-0	-0	-1
Extra Demand	6	5	2	3	7	2	1	1	3	1
Flights Arriving Prior to Their Control Hour	-2	-4	-2	-1	-3	-5	-1	-0	-0	-0
Flights Arriving After Their Control Hour	-2	-1	-0	-0	-1	-1	-0	-2	-1	-0
Total Current Demand	**35**	**33**	**38**	**38**	**46**	**39**	**43**	**42**	**45**	**43**
Number of Unassigned Slots	0	0	0	0	0	0	0	0	0	0
Total Potential Demand	**35**	**33**	**38**	**38**	**46**	**39**	**43**	**42**	**45**	**43**

Consists of Post-Analysis FSA (PA-FSA) and Real-Time FSA (RT-FSA). PA-FSA is an analysis tool used by the Traffic Flow Management (TFM) community to assess the performance of ground delay programs (GDPs) on a next-day basis.