U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: AIRSPACE FLOW PROGRAM **Date:** 5/30/08 **AC No:** 90-102A
Initiated by: AJR-133

1. PURPOSE. This Advisory Circular replaces AC 90-102 and provides guidance to customers of the National Airspace System (NAS) regarding changes to the traffic management process for managing flights through a constrained area with an Airspace Flow Program (AFP).

In this process, traffic managers identify a constraint in the en route system, develop a real-time list of flights that are filed into the constrained area, and implement an AFP. Pilots need to be aware that an AFP distributes expect departure clearance times (EDCT) in order to meter air traffic demand through the area.

Examples of constraints include thunderstorm activity, turbulence, and periods of excess demand. The list of flights includes aircraft that have filed flight plans, filed early intent flight plans, or operate in the constrained area based on historical flight plan data.

2. WHY WAS THE AFP DEVELOPED?

A ground delay program (GDP) is used by traffic managers to meter the flow of arrival traffic at an airport where demand exceeds capacity because of weather or congestion. Multiple, concurrent GDPs have been used during the summer months to manage the impact of en route severe weather. This approach was inefficient because it often delayed flights that did not directly contribute to the problem and assigned no delay to other flights that traversed the constrained airspace. Additionally, this method meant that a small subset of airports, usually those with the greatest demand, incurred a disproportionate amount of delay.

Industry representatives indicated a need for the Federal Aviation Administration (FAA) to implement an equitable method to manage en route constraints. An AFP is designed to distribute delays among all relevant flights that traverse a constrained region of airspace.

To develop an AFP, the constraint must be identified with a Flow Constrained Area (FCA). The FCA is a line, polygon, circle or NAS element that determines the area of concern. This shape generates a list of flights flying through the area. The FCA can be filtered to set altitudes, define arrival and departure points, exclude certain flights, etc. The goal is to capture only those flights necessary to adequately reduce airspace volume. After the flight lists are modeled and the FCA is created as desired, the Flight Schedule Monitor (FSM) is used to model an AFP and determine strategies. Once the appropriate arrival rate is set, FSM sends EDCTs to FAA facilities.

3. WHO IMPLEMENTS AFPs?

The David J. Hurley Air Traffic Control System Command Center (ATCSCC), National En Route Spacing Position (NESP) has oversight responsibilities for all AFPs.

4. WHAT BENEFITS ARE PROVIDED BY AN AFP?

An AFP provides:

- Precise control of airspace demand by avoiding the imposition of unnecessary delay on flights that do not use the constrained airspace.
- Equitable distribution of delays among flights filed through the constrained airspace.
- Customers with more predictability, flexibility, and options during a severe weather event.

5. HOW DOES AN AFP AFFECT MY FLIGHT?

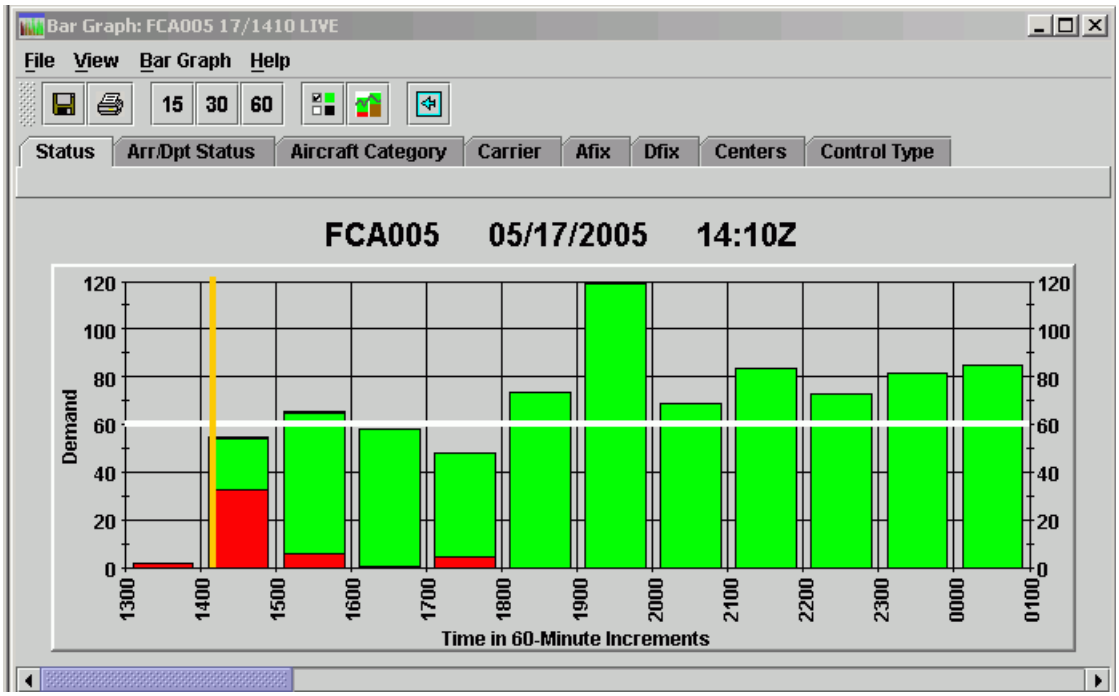
When the air traffic demand in a constrained area is projected to exceed capacity, traffic managers at the ATCSCC will follow a predefined coordination process and may issue an AFP for the constrained airspace.

If an AFP is issued and a flight is included, the pilot will receive an EDCT.

6. WHAT IS AN EDCT?

An EDCT is a departure time generated by the traffic manager's Flight Schedule Monitor software program that specifies when a flight should depart. Meeting the departure time is important because it allows traffic managers to properly meter flights through a constrained area, and reduces the possibility of airborne delay.

FIGURE 1. Air Traffic Demand Shown On a Flight Schedule Monitor



7. HOW IS THE AFP ARRIVAL RATE SET?

Based on anticipated conditions, the NESP will select an arrival rate based on guidelines developed through analysis of historical data. The arrival rate determines the number of flights per hour through the defined constraint.

In the AFP, a “pop-up factor” is set to allow for flights that are not part of the known demand. This allows flexibility for flights that are identified, by filing a flight plan, after the AFP has been issued. The pop-up factor also allows room for flights that reroute into an existing AFP. Basically, the pop-up factor manages consistent delay assignment for flights not identified when the program was initiated.

8. HOW DO I FIND OUT IF MY FLIGHT IS INCLUDED IN AN AFP?

When an AFP is issued, the FAA will send an Advisory that is accessible at http://www.fly.faa.gov/adv/advAdvisoryForm.jsp

An AFP will also appear in graphic and text formats on the ATCSCC Operational Information System page at http://www.fly.faa.gov/ois/

Your flight is included if it falls within the parameters of the Advisory, between the specified altitudes, crossing an AFP, and destined to the specified areas. For example, your flight is filed between 12,000 feet MSL and FL600, crosses an AFP located in western Pennsylvania, and lands at an airport within the New York Air Route Traffic Control Center (ARTCC) or Boston ARTCC.

9. HOW DO I FIND OUT IF MY FLIGHT HAS AN EDCT?

At airports with an airport traffic control tower, controllers will provide you with the EDCT.

If you are departing an airport without a control tower, you should determine if your flight has an EDCT prior to departure. To do so, you may contact:

- The overlying Terminal Radar Approach Control (TRACON) or ARTCC by radio, or telephone, if available. The controller has a process for determining if your flight has an EDCT.

- You may also visit the ATCSCC’s website at http://www.fly.faa.gov/edct to determine if your flight has an EDCT or to determine if your EDCT has changed.

This website will provide information regarding the location and reason for an AFP. It will also provide a “Look Up” function to determine if your flight has received an EDCT.

FIGURE 2. EXAMPLE OF THE EDCT LOOK UP WEB PAGE

10. WHAT IF I DEPART VFR, PICK UP MY IFR CLEARANCE WHEN AIRBORNE, AND THEN DISCOVER I HAVE AN EDCT?

First, it is important for you to check, before you depart, to determine if your flight is included in an AFP.

Depending on the severity of the constraint, you can anticipate the following options to be exercised by traffic managers. You may be:

- Assigned airborne holding to provide the delay necessary for your flight to arrive at the AFP controlled time of arrival (CTA); or
- Rerouted to avoid the AFP altogether; or
- Offered an intermediate landing. The flight should land at the intermediate airport to provide the delay necessary for your flight to arrive at the AFP CTA.

11. WHAT IF I MISS THE ASSIGNED EDCT OR NEED TO ARRANGE A DIFFERENT TIME?

You have a window of time in which to depart and not miss the EDCT.

Flights are asked to depart as close to the control time as possible. If conditions warrant, you may depart 5 minutes before the EDCT and up to 5 minutes after.

Outside of that window, you may exercise the following options:

- At airports with a control tower, the controller has a process for requesting a new time and can assist you.
- At airports without a control tower, you may contact:
    - o The overlying TRACON or ARTCC. The controller has a process for requesting a new time.
    - o Most airlines and Collaborative Decision Making (CDM) members have a process for contacting the ATCSCC to request a new time.

12. WHAT OPTIONS DO I HAVE BESIDES TAKING A GROUND DELAY

Route out of an AFP - If there is another acceptable route available that would take the flight out of an AFP; you may choose to refile the flight plan. The software will recognize that the flight is no longer in an AFP.

Make a stop en route - You may elect to land at an intermediate airport to provide the delay necessary for the flight to arrive at an AFP controlled time of arrival.

13. WHAT HAPPENS IF I FILE A NEW FLIGHT PLAN INTO AN EXISTING AFP OR ROUTE OUT OF ONE AFP INTO ANTOHER?

If you file a new flight plan into an existing AFP, or you file a flight plan out of an AFP and into another, the flight will be treated as a pop-up. Your flight will be assigned an EDCT consistent with the delay received by other flights filed to enter the AFP at about the same time.

14. WHAT HAPPENS WHEN MY FLIGHT ALREADY HAS AN EDCT FOR AN AIRPORT GROUND DELAY PROGRAM?

If your flight is included in both an airport GDP and an AFP, the EDCT for the GDP will take precedence and you will not be issued another EDCT.

15. WILL AFP ELIMINATE THE NEED FOR MILES-IN-TRAIL (MIT) AND OTHER INITIATIVES?

It is recognized that the predicted demand through an AFP, and the weather impacting the area, will change substantially over time. Demand through the constrained airspace may exceed or fall below capacity or weather conditions in the airspace may worsen or improve. When the conditions warrant, traffic managers will take steps to coordinate and implement revisions to an AFP. In a revision, AFP entry times are recomputed so that demand is again metered to meet capacity and new EDCTs are sent to the ARTCCs, the control towers, and the customer flight operation centers.

If the weather that necessitated an AFP dissipates, or if the demand falls well below capacity the AFP will be cancelled.

16. ARE SUSTITUTION RULES FOR AFP THE SAME AS THEY ARE FOR AN AIRPORT GDP?

For airline and CDM members the rules are the same as for a GDP.

17. SHOULD I WAIT TO CANCEL A FLIGHT BEFORE OR AFTER AN AFP IS ISSUED?

If an airline or CDM member cancels a flight before the eligible FCA has been created, you will lose the held slot. It is in your best interest to wait until the flight is captured in the FCA database before you cancel it, so you can sub into that slot with another flight.

General aviation customers are requested to cancel their original flight plan if they are filing to remove themselves from the AFP. This will remove the adverse impact of multiple flight plans in the FAA system.

Nancy B. Kalinowski
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5/21/08
Date Signed