M-494.6

AC 90-65A

DATE August 21, 1980

ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Washington, D.C.

Subject: AIR TRAFFIC FUEL ECONOMY PROGRAM

1. PURPOSE. This circular advises the aviation community of an expansion of an Air Traffic Service program used to conserve aviation fuel. In the past, during periods when the normal movement of arrival aircraft was disrupted, Fuel Advisory Departure (FAD) Procedures were implemented at O'Hare Airport, at Chicago, Illinois. The procedures have proven to be successful for more than four years, and now need to be expanded to include Denver's Stapleton Airport in Colorado. Other delay generating airports will be subsequently included. The FAD approach is to offer the operator/pilot the option to delay his departure until the air traffic control (ATC) system can absorb the flight with no more than approximately 30 minutes arrival holding delay at destination.

This circular also describes actions expected of aircraft operators to ensure efficient flow control planning through an integrated program.

2. EFFECTIVE DATE. August 21, 1980.

3. CANCELLATION. AC 90-65, Air Traffic Fuel Economy Program, dated January 1, 1974, is cancelled.

4. DISCUSSION.

a. The previous Federal Aviation Administration (FAA) philosophy was to ensure maximum use of airspace prior to holding flights on the ground at the departure point. This philosophy resulted in excessive airborne delays resulting in extensive fuel consumption. The energy crisis necessitated a reversal of this philosophy. The present concept promotes a reduction in "engine running time" whenever significant arrival delays are anticipated at high-activity airports. This is accomplished by the equitable assignment of ground delays at departure airport, thus reducing the airborne delay posture. Locally devised gate hold procedures will delay engine start until the aircraft can be cleared to taxi and to take-off.

Initiated by: AAT-370

b. At most airports the arrival demand and airport acceptance rates are generally in balance. However, during periods when the optimum landing rate cannot be maintained, airborne delays rapidly accumulate. To reduce the airborne delays and associated unnecessary engine running time for traffic destined to the impacted airport, the following developed procedures will be employed for all traffic en route to the impacted airport. For the purposes of this circular, Chicago's O'Hare (ORD) and Denver's Stapleton (DEN) Airports are the impacted airports.

5. OPERATION PRINCIPLES.

a. The "trigger" for the imposition of FAD procedures is predicated on an actual airport constraint, such as equipment failure, weather phenomena, or other factors that significantly reduce an airport's acceptance rate with delays forecast to exceed one hour for an extended period of time (several hours or more).

b. FAD conserves aviation fuel by detaining aircraft on the ground until the system can absorb the flight with no more than approximately 30 minutes arrival holding delay. This is accomplished by assigning an Expected Departure Clearance Time (EDCT) designed to delay engine start until shortly before the aircraft is ready to be issued a taxi clearance.

c. Due to operator constraints and subject to the availability of holding space, ground and air, the aircraft operator may exercise the following options:

(1) Ground Delay. A credited amount of delay imposed at the originating and/or at an intermediate terminal.

(2) Airborne Delay. Amount of airborne holding delay equal to the ground delay but encountered outside of the arrival center airspace.

(3) Intermediate Landing. The option to land and absorb all or a portion of the imposed delay at an airport other than the scheduled departure or scheduled destination airport.

(4) Split Delay. Combination of ground/airborne delay a flight receives. This excludes the stack delay which can be expected in the arrival air route traffic control center (ARTCC) area.

(5) Substitutions. The exchange of assigned departure clearance times between two or more flights of the same operator en route to the impacted airport.

d. System users and ATC facilities will be apprised of current and projected conditions at the FAD airport on a timely basis.

6. PROCEDURAL CONCEPT.

a. ATC shall assign ground delays at the point of departure for non-long distance flights departing points within a designated flying time (usually 2½ hours or less) from the impacted airport to limit the arrival holding to an average stack delay (usually 30 minutes or less) as defined in FAA advisory messages. This arrival delay of 30 minutes or less will be encountered in the arrival ARTCC area.

b. ATC shall provide the pilot or operator with an EDCT 60 to 90 minutes before the proposed time of departure (ETD) filed in the flight plan. After the delay advisory/EDCT is received, the pilot/operator may request the option to hold an aircraft, regardless of the distance to the impacted airport, either on the ground or in the air subject to availability of holding airspace within the system. Except for long distance flights, when no option is requested, ground delays will be issued.

(1) When an option is exercised, an immediate response by ATC is expected.

(2) When the airborne delay option is requested and approved, ATC will impose an airborne delay, equal to the ground delay assigned to other flights estimated to arrive at the impacted airport during the same timeframe.

(3) Flights are entitled to the option of landing at an intermediate airport while retaining their original arrival sequence. If an intermediate landing is made, ATC shall issue the flight an EDCT based on the new ETD from the intermediate airport to the impacted airport. Pilots/dispatchers must ensure that when exercising an intermediate landing that they explicitly communicate their request to the ARTCC within which the intermediate landing airport is located.

c. ATC will permit flights departing long distance airports to take an equitable delay either in the air, at the departure point upon request, or at an intermediate terminal at the aircraft operator's discretion. When either option is exercised, ATC shall impose a delay equal to the delay assigned to other flights estimated to arrive at the impacted airport during the same timeframe.

d. ATC will distribute both airborne and ground delays equitably to all aircraft, based upon their scheduled time of arrival at the impacted airport.

7. NOTIFICATION.

a. When delays occur and it has been determined that FAD procedures will be implemented, the FAA Air Traffic Control Systems Command Center (ATCSCC) will transmit an appropriate flow control advisory message to airspace users, ARTCC's and flight service stations. As the operational situation changes, the ATCSCC will issue additional updating messages.

b. Air taxi, general aviation, and military flights will be advised of their EDCT by flight service stations.

c. Air carrier dispatch offices will be advised of the EDCT for their respective flights via the appropriate circuit or telephone, by the center having jurisdiction over the departure airport.

7. FLIGHT PLAN FILING.

a. All pilots/operators destined for the FAD identified airport, when FAD is in effect, are requested to file their flight plan four hours prior to estimated time of departure. The flight plan should include estimated time en route (ETE).

b. Upon receipt of IFR flight plan, the flight service station specialist will advise the pilot that there may be a delay. The pilot will be requested to call back one hour before the proposed departure time for expected departure clearance time.

8. FLOW CONTROL ADVISORIES.

a. The ATCSCC will disseminate flow control advisories, bulletins and instructions when:

(1) FAD or transitional procedures are implemented.

(2) Arrival delays are expected to exceed 30 minutes and the condition causing the delay is expected to continue for a significant period of time.

(3) Update delay information is necessary.

b. Flow control advisories will be addressed to:

(1) All domestic U.S. centers and flight service stations.

(2) Honolulu and Anchorage Centers and selected international air traffic facilities.

(3) Selected airline dispatch and local operations offices.

(4) Carswell AFB for military notification.

c. Items to be included in advisories:

(1) Identification of the message as a flow control advisory and FAD message including impacted airport.

(2) Message sequence number and FAD alphabetical identification sequence and void time.

(3) Text of advisory (anticipated or actual delay, etc.).

(4) Reason for delay and other pertinent information.

c. Example:

ATCSCC NR012 DEN FAD MESSAGE ALPHA. VOID 2359Z.

DENVER ACCEPTANCE RATE REDUCED DUE TO HEAVY SNOWFALL IFR WX CONDITIONS AND SINGLE LANDING RUNWAY. FUEL ADVISORY DEPARTURE (FAD) PROCEDURES WILL BE IMPLEMENTED FOR FLIGHTS SCHEDULED TO ARRIVE AT 1700Z AND AFTER BASED ON ACCEPTANCE RATE OF 35 PER HOUR. GROUND DELAY FACTORS FOR TRAFFIC ESTIMATED TO ARRIVE IN THE FOLLOWING TIME BRACKETS ARE:

ARR TIME	ATCSCC DELAY FACTOR	AVG STACK DELAY	AVG TOTAL DELAY
1700	0005	0030	0035
1715	0013	0030	0043
1730	0024	0030	0054
1745	0047	0030	0077
1800	0056	0030	0086

CFCF (202) 426-3636. GADDY.

NOTE:

ARR TIME: Denotes original scheduled time of arrival.

ATCSCC DELAY FACTOR: Indicates the Ground/Airborne delay to be imposed and absorbed outside of the arrival center area.

AVG STACK DELAY: Indicates holding delay in the arrival center's area.

AVG TOTAL DELAY: Indicates the total delay (combination of both stack and ATCSCC delay) due each flight arriving during the associated 15 minute timeframe, i.e., ETA 1730 to 1744: 54 minutes of which 30 minutes in the arrival center and 24 minutes on the ground.

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