

fuel load within the tank for given points in the flight must be accounted for in the model. The model uses a "tank full" time, specified in minutes, that defines the time before touchdown when the fuel tank is still full. For a center wing tank used first, this number would be the maximum flight time, and the tank would start to empty at takeoff. For a main tank used last, the tank will remain full for a shorter time before touch down, and would be "empty" at touch down (i.e., tank empty at 0 minutes before touch down). In the case of a main tank with reserves, the term empty means at reserve level rather than totally empty. The thermal data for tank empty would also be for reserve level.

The model also uses a "tank empty" time to define the time when the tank is emptying, and the program uses a linear interpolation between the exponential time constants for full and empty during the time the tank is emptying. For a tank that is only used for long-range flights, the tank would be full only on very long-range missions and would be empty a long time before touch down. For short flights, it would be empty for the whole flight. For a main tank that carried reserve fuel, it would be full for a long time and would only be down to empty at touch down. In this case, empty would really be at reserve level, and the thermal constants at empty should be those for the reserve level.

The applicant, whether using the available model or using another analysis tool, must propose means to validate thermal time constants and equilibrium temperatures to be used in the analysis. The applicant may propose using a more detailed thermal definition, such as changing time constants as a function of fuel load, provided the details and substantiation information are acceptable and the Monte Carlo model program changes are validated.

#### Overnight Temperature Drop

An overnight temperature drop must be considered in the Monte Carlo analysis as it may affect the oxygen concentration level in the fuel tank. The overnight temperature drop for these special conditions will be defined using:

- A landing temperature that is a random value based on a Gaussian distribution; and
- An overnight temperature drop that is a random value based on a Gaussian distribution.

For any flight that will end with an overnight ground period (one flight per day out of an average of x flights per day, depending on utilization of the particular airplane model being evaluated), the landing outside air temperature (OAT) is to be chosen as a random value from the following Gaussian curve:

TABLE 4.—LANDING OAT

Parameter	Landing temperature °F
Mean Temp .....	58.68
neg 1 std dev .....	20.55
pos 1 std dev .....	13.21

The outside ambient air temperature (OAT) drop for that night is to be chosen as a

random value from the following Gaussian curve:

TABLE 5.—OAT DROP

Parameter	OAT drop temperature °F
Mean Temp .....	12.0
1 std dev .....	6.0

#### Oxygen Evolution

Fuel contains dissolved gases, and in the case of oxygen and nitrogen absorbed from the air, the oxygen level in the fuel can exceed 30 percent, instead of the normal 21 percent oxygen in air. Some of these gases will be released from the fuel during the reduction of ambient pressure experienced in the climb and cruise phases of flight. The applicant must consider the effects of air evolution from the fuel on the level of oxygen in the tank ullage during ground and flight operations and address these effects on the overall performance of the FRS. The applicant must provide the air evolution rate for the fuel tank under evaluation, along with substantiation data.

#### Number of Flights Required in Analysis

In order for the Monte Carlo analysis to be valid for showing compliance with the flammability requirements of these special conditions, the applicant must run the analysis for an appropriate number of flights to ensure that the flammability exposure for the fuel tank under evaluation meets the criteria defined in Table 6.

TABLE 6.—FLAMMABILITY LIMIT

Number of flights in Monte Carlo analysis	Maximum acceptable fuel tank flammability (%)
1,000 .....	2.73
5,000 .....	2.88
10,000 .....	2.91
100,000 .....	2.98
1,000,000 .....	3.00

Issued in Renton, Washington, on November 28, 2003.

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 71

[Docket No. FAA-2003-16534; Airspace Docket No. 03-ASO-19]

#### Proposed Establishment of Class D and Class E4 Airspace; Olive Branch, MS Proposed Amendment of Class E5 Airspace; Memphis, TN

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** This notice proposes to establish Class D and Class E4 airspace at Olive Branch, MS, and amend Class E5 airspace at Memphis, TN. A Federal contract tower with a weather reporting system is being constructed at the Olive Branch Airport. Therefore, the airport will meet the criteria for establishment of Class D and Class E4 airspace. Class D surface area airspace and Class E4 airspace designated as an extension to Class D airspace is required when the control tower is open to contain existing Standard Instrument Approach Procedures (SIAPs) and other Instrument Flight Rules (IFR) operations at the airport. This action would establish Class D airspace extending upward from the surface to and including 2,900 feet MSL within a 4-mile radius of the Olive Branch Airport and Class E airspace extensions that are 5 miles wide and extend 7 miles northeast and south of the airport. A regional evaluation has determined the existing Class E5 airspace area for Memphis, TN, which includes the Olive Branch Airport, should be amended to contain the Nondirectional Radio Beacon (NDB) Or Global Positioning System (GPS) Runway (RWY) 18 and RWY 36 SIAPs. As a result, controlled airspace extending upward from 700 feet Above Ground Level (AGL) is needed to contain the procedure turn airspace area.

**DATES:** Comments must be received on or before January 8, 2004.

**ADDRESSES:** Send comments on this proposal to the Docket Management System, U.S. Department of Transportation, Room Plaza 401, 400 Seventh Street, SW., Washington, DC 20590-0001. You must identify the docket number FAA-2003-16534/ Airspace Docket No. 03-ASO-19, at the beginning of your comments. You may also submit comments on the Internet at <http://dms.dot.gov>. You may review the public docket containing the proposal, any comments received, and any final disposition in person in the Dockets