(3) To comply with this appendix, a minimum of six takeoffs, six approaches, and six level flyovers is required. To be counted toward this requirement, each flight event must be validly recorded at all three noise measuring stations.

(4) The approved values of V_H and V_y used in calculating test and reference conditions and flight profiles must be reported along with measured and corrected sound pressure levels.

Section H36.113 Atmospheric attenuation of sound.

(a) The values of the one-third octave band spectra measured during helicopter noise certification tests under this appendix must conform, or be corrected, to the reference conditions prescribed in section H36.3(a). Each correction must account for any differences in the atmospheric attenuation of sound between the test-day conditions and the reference-day conditions along the sound propagation path between the aircraft and the microphone. Unless the meteorological conditions are within the test window prescribed in this appendix, the test data are not acceptable.

(b) *Attenuation rates.* The procedure for determining the atmospheric attenuation rates of sound with distance for each one-third octave bands must be determined in accordance with SAE ARP 866A (Incorporated by reference, see §36.6). The atmospheric attenuation equations are provided in both the International and English systems of units in section A36.7 of appendix A to this part.

(c) *Correction for atmospheric attenuation.* (1) EPNL values calculated for measured data must be corrected whenever—

(i) The ambient atmospheric conditions of temperature and relative humidity do not conform to the reference conditions, 77 °F and 70%, respectively, or

(ii) The measured flight paths do not conform to the reference flight paths.

(iii) The temperature and relative humidity measured at 33 feet (10 meters) above the ground must be used to adjust for propagation path absorption.

(2) The mean attenuation rate over the complete sound propagation path from the aircraft to the microphone must be computed for each one-third octave band from 50 Hz to 10,000 Hz. These rates must be used in computing the corrections required in section H36.111(d) of this appendix.

PART C—NOISE EVALUATION AND CALCULATION UNDER §36.803

Section H36.201 Noise Evaluation in EPNdB.

(a) Effective Perceived Noise Level (EPNL), in units of effective perceived noise decibels (EPNdB), shall be used for evaluating noise level values under §36.803 of this part. Except as provided in paragraph (b) of this section, the procedures in appendix A of Part 36 must be used for computing EPNL. appendix A includes requirements governing determination of noise values, including calculations of:

(1) Perceived noise levels;
(2) Corrections for spectral irregularities;
(3) Tone corrections;
(4) Duration corrections;
(5) Effective perceived noise levels; and
(6) Mathematical formulation of noy tables.

(b) Notwithstanding the provisions of section A36.4.3.1(a), for helicopter noise certification, corrections for spectral irregularities shall start with the corrected sound pressure level in the 50 Hz one-third octave band.

Section H36.203 Calculation of noise levels.

(a) To demonstrate compliance with the noise level limits of section H36.305, the noise values measured simultaneously at the three noise measuring points must be arithmetically averaged to obtain a single EPNdB value for each flight.

(b) The calculated noise level for each noise test series, *i.e.*, takeoff, flyover, or approach must be the numerical average of at least six separate flight EPNdB values. The 90 percent confidence limit for all valid test runs under section H36.111(d) of this appendix applies separately to the EPNdB values for each noise test series.

Section H36.205 Detailed data correction procedures.

(a) *General.* If the test conditions do not conform to those prescribed as noise certification reference conditions under section H36.305 of this appendix, the following correction procedure shall apply:

(1) If there is any difference between measured test and reference conditions, an appropriate correction must be made to the EPNL calculated from the measured noise data. Conditions that can result in a different value include:

(i) Atmospheric absorption of sound under measured test conditions that are different from the reference test conditions; or

(ii) Measured flight path that is different from the reference flight path.

(2) The following correction procedures may produce one or more possible correction values which must be added algebraically to the calculated EPNL to bring it to reference conditions:

(i) The flight profiles must be determined for both reference and test conditions. The procedures require noise and flight path recording with a synchronized time signal from which the test profile can be delineated, including the aircraft position for which PNLTM is observed at the noise measuring station. For takeoff, the flight profile