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Upon completion of the examination, the VEs will grade the test papers. If the applicant is successful, the VEs will forward the candidate's application to a Volunteer-Examiner Coordinator (VEC). The VEs will then issue a certificate for successful completion of an amateur radio operator examination. The VEC will forward the application to the Commission's Gettysburg, Pennsylvania, facility.

[63 FR 68935, Dec. 14, 1998]

§ 1.958 Distance computation.

The method given in this section must be used to compute the distance between any two locations, except that, for computation of distance involving stations in Canada and Mexico, methods for distance computation specified in the applicable international agreement, if any, must be used instead. The result of a distance calculation under parts 21 and 101 of this chapter must be rounded to the nearest tenth of a kilometer. The method set forth in this paragraph is considered to be sufficiently accurate for distances not exceeding 475 km (295 miles).

(a) Convert the latitudes and longitudes of each reference point from degree-minute-second format to degree-decimal format by dividing minutes by 60 and seconds by 3600, then adding the results to degrees.

$$\text{LATX}_{\text{dd}} = \text{DD} + \frac{\text{MM}}{60} + \frac{\text{SS}}{3600}$$

$$\text{LONX}_{\text{dd}} = \text{DDD} + \frac{\text{MM}}{60} + \frac{\text{SS}}{3600}$$

(b) Calculate the mean geodetic latitude between the two reference points by averaging the two latitudes:

$$\text{ML} = \frac{\text{LAT1}_{\text{dd}} + \text{LAT2}_{\text{dd}}}{2}$$

(c) Calculate the number of kilometers per degree latitude difference for the mean geodetic latitude calculated in paragraph (b) of this section as follows:

$$\text{KPD}_{\text{lat}} = 111.13209 - 0.56605 \cos 2\text{ML} + 0.00120 \cos 4\text{ML}$$

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(d) Calculate the number of kilometers per degree of longitude difference for the mean geodetic latitude calculated in paragraph (b) of this section as follows:

$$\text{KPD}_{\text{lon}} = 111.41513 \cos 5\text{ML} - 0.09455 \cos 3\text{ML} + 0.00012 \cos 5\text{ML}$$

(e) Calculate the North-South distance in kilometers as follows:

$$\text{NS} = \text{KPD}_{\text{lat}} \times (\text{LAT1}_{\text{dd}} - \text{LAT2}_{\text{dd}})$$

(f) Calculate the East-West distance in kilometers as follows:

$$\text{EW} = \text{KPD}_{\text{lon}} \times (\text{LON1}_{\text{dd}} - \text{LON2}_{\text{dd}})$$

(g) Calculate the distance between the locations by taking the square root of the sum of the squares of the East-West and North-South distances:

$$\text{DIST} = \sqrt{\text{NS}^2 + \text{EW}^2}$$

(h) Terms used in this section are defined as follows:

- (1) LAT1_{dd} and LON1_{dd} are the coordinates of the first location in degree-decimal format.
- (2) LAT2_{dd} and LON2_{dd} are the coordinates of the second location in degree-decimal format.
- (3) ML is the mean geodetic latitude in degree-decimal format.
- (4) KPD_{lat} is the number of kilometers per degree of latitude at a given mean geodetic latitude.
- (5) KPD_{lon} is the number of kilometers per degree of longitude at a given mean geodetic latitude.
- (6) NS is the North-South distance in kilometers.
- (7) EW is the East-West distance in kilometers.
- (8) DIST is the distance between the two locations, in kilometers.

[70 FR 19306, Apr. 13, 2005]

§ 1.959 Computation of average terrain elevation.

Except as otherwise specified in § 90.309(a)(4) of this chapter, average terrain elevation must be calculated by computer using elevations from a 30 second point or better topographic data file. The file must be identified. If a 30 second point data file is used, the elevation data must be processed for intermediate points using interpolation techniques; otherwise, the nearest

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point may be used. In cases of dispute, average terrain elevation determinations can also be done manually, if the results differ significantly from the computer derived averages.

(a) Radial average terrain elevation is calculated as the average of the elevation along a straight line path from 3 to 16 kilometers (2 and 10 miles) extending radially from the antenna site. If a portion of the radial path extends over foreign territory or water, such portion must not be included in the computation of average elevation unless the radial path again passes over United States land between 16 and 134 kilometers (10 and 83 miles) away from the station. At least 50 evenly spaced data points for each radial should be used in the computation.

(b) Average terrain elevation is the average of the eight radial average terrain elevations (for the eight cardinal radials).

(c) For locations in Dade and Broward Counties, Florida, the method prescribed above may be used or average terrain elevation may be assumed to be 3 meters (10 feet).

[70 FR 19306, Apr. 13, 2005]

REPORTS TO BE FILED WITH THE COMMISSION

§ 1.981 Reports, annual and semi-annual.

(a) Licensees of stations authorized for developmental operation shall submit a report on the results of the developmental program. The report shall be filed with and made a part of each application for renewal of authorization. The report shall be filed at the Commission's offices in Washington, DC or alternatively may be sent to the commission electronically via the ULS.

(b) The report shall include comprehensive and detailed information on the following:

- (1) The final objective.
- (2) Results of operation to date.
- (3) Analysis of the results obtained.
- (4) Copies of any published reports.
- (5) Need for continuation of the program.
- (6) Number of hours of operation on each frequency.

(c) Where required by the particular service rules, licensees who have entered into agreements with other persons for the cooperative use of radio station facilities must submit annually an audited financial statement reflecting the nonprofit cost-sharing nature of the arrangement to the Commission's offices in Washington, DC or alternatively may be sent to the Commission electronically via the ULS, no later than three months after the close of the licensee's fiscal year.

[63 FR 68935, Dec. 14, 1998]

Subpart G—Schedule of Statutory Charges and Procedures for Payment

SOURCE: 52 FR 5289, Feb. 20, 1987, unless otherwise noted.

§ 1.1101 Authority.

Authority to impose and collect these charges is contained in title III, section 3001 of the Omnibus Budget Reconciliation Act of 1989 (Pub. L. 101-239), revising 47 U.S.C. 158, which directs the Commission to prescribe charges for certain of the regulatory services it provides to many of the communications entities within its jurisdiction. This law revises section 8 of the Communications Act of 1934, as amended, which contains a Schedule of Charges as well as procedures for modifying and collecting these charges.

[55 FR 19155, May 8, 1990]

§ 1.1102 Schedule of charges for applications and other filings in the wireless telecommunications services.

Those services designated with an asterisk in the payment type code column have associated regulatory fees that must be paid at the same time the application fee is paid. Please refer to § 1.1152 for the appropriate regulatory fee that must be paid for this service. Remit manual filings and/or payment for these services to the: Federal Communications Commission, Wireless Bureau Applications, P.O. Box 979097, St. Louis, MO 63197-9000.