transmitters that are providing service to subscribers.

(e) *Adjacent channel protection.* The ERP of transmitters must not exceed 500 Watts if they:

(1) Transmit on a channel in the 152–159 MHz frequency range and are located less than 5 kilometers (3.1 miles) from any station licensed in the Private Radio Services that receives on an adjacent channel; or,

(2) Transmit on channel 158.10 or 158.70 MHz and are located less than 5 kilometers (3.1 miles) from any station licensed in the Public Mobile Services that receives on either of the following adjacent channels: 158.07 MHz or 158.67 MHz.

(f) *Signal boosters.* The effective radiated power of signal boosters must not exceed 5 watts ERP under any normal operating condition.

[59 FR 59507, Nov. 17, 1994, as amended at 61 FR 31051, June 19, 1996]

### § 22.537 Technical channel assignment criteria.

The rules in this section establish technical assignment criteria for the channels listed in § 22.531. These criteria permit channel assignments to be made in a manner such that reception by public paging receivers of signals from base transmitters, within the service area of such base transmitters, is protected from interference caused by the operation of independent co-channel base transmitters.

(a) *Contour overlap.* The FCC may grant an application requesting assignment of a channel to a proposed base transmitter only if:

(1) The interfering contour of the proposed transmitter does not overlap the service contour of any protected co-channel transmitter controlled by a carrier other than the applicant, unless that carrier has agreed in writing to accept any interference that may result from operation of the proposed transmitter; and,

(2) The service contour of the proposed transmitter does not overlap the interfering contour of any protected co-channel transmitter controlled by a carrier other than the applicant, unless the applicant agrees to accept any interference that may result from operation of the protected co-channel transmitter; and,

(3) The area and/or population to which service would be provided by the proposed transmitter is substantial, and service gained would exceed that lost as a result of agreements to accept interference.

(b) *Protected transmitter.* For the purposes of this section, protected transmitters are authorized transmitters for which there is a current FCC public record and transmitters proposed in prior-filed pending applications.

(c) *VHF service contour.* For paging stations transmitting on the VHF channels, the distance from the transmitting antenna to the service contour along each cardinal radial is calculated as follows:

$d=1.243\times h^{0.40}\times p^{0.20}$

where d is the radial distance in kilometers

h is the radial antenna HAAT in meters

p is the radial ERP in Watts

(1) Whenever the actual HAAT is less than 30 meters (98 feet), 30 must be used as the value for h in the above formula.

(2) The value used for p in the above formula must not be less than 27 dB less than the maximum ERP in any direction or 0.1 Watt, whichever is more.

(3) The distance from the transmitting antenna to the service contour along any radial other than the eight cardinal radials is routinely calculated by linear interpolation of distance as a function of angle. However, in resolving petitions to deny, the FCC may calculate the distance to the service contour using the formula in paragraph (c) of this section with actual HAAT and ERP data for the inter-station radial and additional radials above and below the inter-station radial at 2.5° intervals.

(d) *VHF interfering contour.* For paging stations transmitting on the VHF channels, the distance from the transmitting antenna to the interfering contour along each cardinal radial is calculated as follows:

$d=6.509\times h^{0.28}\times p^{0.17}$

where d is the radial distance in kilometers

h is the radial antenna HAAT in meters

p is the radial ERP in Watts

(1) Whenever the actual HAAT is less than 30 meters (98 feet), 30 must be used as the value for h in the above formula.

(2) The value used for p in the above formula must not be less than 27 dB less than the maximum ERP in any direction or 0.1 Watt, whichever is more.

(3) The distance from the transmitting antenna to the interfering contour along any radial other than the eight cardinal radials is routinely calculated by linear interpolation of distance as a function of angle. In resolving petitions to deny, however, the FCC may calculate the distance to the interfering contour using the formula in paragraph (d) of this section with actual HAAT and ERP data for the inter-station radial and additional radials above and below the inter-station radial at 2.5° intervals.

(e) *931 MHz service contour.* For paging stations transmitting on the 931 MHz channels, the service contour is a circle, centered on the transmitting antenna, with a radius determined from Table E–1 of this section.

TABLE E–1—931 MHZ PAGING SERVICE RADII

| Service radius km (miles) | Effective radiated power (Watts) | | | | | |
|---|---|---|---|---|---|---|
| Antenna HAAT meters (feet) | 0–125 | 126–250 | 251–500 | 501–1000 | 1001–1860 | 1861–3500 |
| 0–177 (0–581) | 32.2 (20) | 32.2 (20) | 32.2 (20) | 32.2 (20) | 32.2 (20) | 32.2 (20) |
| 178–305 (582–1001) | 32.2 (20) | 32.2 (20) | 32.2 (20) | 32.2 (20) | 37.0 (23) | 41.8 (26) |
| 306–427 (1002–1401) | 32.2 (20) | 32.2 (20) | 37.0 (23) | 41.8 (26) | 56.3 (35) | 56.3 (35) |
| 428–610 (1402–2001) | 32.2 (20) | 37.0 (23) | 41.8 (26) | 56.3 (35) | 56.3 (35) | 56.3 (35) |
| 611–861 (2002–2825) | 37.0 (23) | 41.8 (26) | 41.8 (26) | 56.3 (35) | 83.7 (52) | 83.7 (52) |
| 862–1219 (2826–3999) | 41.8 (26) | 56.3 (35) | 56.3 (35) | 83.7 (52) | 83.7 (52) | 83.7 (52) |
| 1220+ (4000+) | 56.3 (35) | 56.3 (35) | 83.7 (52) | 83.7 (52) | 83.7 (52) | 83.7 (52) |

(f) *931 MHz interfering contour.* For paging stations transmitting on the 931 MHz channels, the interfering contour is a circle, centered on the transmitting antenna, with a radius determined from Table E–2 of this section.

TABLE E–2—931 MHZ PAGING INTERFERING RADII

| Interfering radius km (miles) | Effective radiated power (Watts) | | | | | |
|---|---|---|---|---|---|---|
| Antenna HAAT meters (feet) | 0–125 | 126–250 | 251–500 | 501–1000 | 1001–1860 | 1861–3500 |
| 0–177 (0–581) | 80.5 (50) | 80.5 (50) | 80.5 (50) | 80.5 (50) | 80.5 (50) | 80.5 (50) |
| 178–305 (582–1001) | 80.5 (50) | 80.5 (50) | 80.5 (50) | 80.5 (50) | 88.5 (55) | 96.6 (60) |
| 306–427 (1002–1401) | 80.5 (50) | 80.5 (50) | 88.5 (55) | 96.6 (60) | 130.4 (81) | 130.4 (81) |
| 428–610 (1402–2001) | 80.5 (50) | 88.5 (55) | 96.6 (60) | 130.4 (81) | 130.4 (81) | 130.4 (81) |
| 611–861 (2002–2825) | 88.5 (55) | 96.6 (60) | 96.6 (60) | 130.4 (81) | 191.5 (119) | 191.5 (119) |
| 862–1219 (2826–3999) | 96.6 (60) | 130.4 (81) | 130.4 (81) | 191.5 (119) | 191.5 (119) | 191.5 (119) |
| 1220+ (4000+) | 130.4 (81) | 130.4 (81) | 191.5 (119) | 191.5 (119) | 191.5 (119) | 191.5 (119) |

(g) *In-building radiation systems.* The locations of in-building radiation systems must be within the service contour(s) of the licensee's authorized transmitter(s) on the same channel. In-building radiation systems are not protected facilities, and therefore do not have service or interfering contours.

(h) *Signal boosters on 931 MHz channels.* For the purpose of compliance with §22.165 and notwithstanding paragraphs (e) and (f) of this section, signal boosters operating on the 931 MHz channels with an antenna HAAT not exceeding 30 meters (98 feet) are deemed to have as a service contour a circle with a radius of 1.0 kilometer (0.6 mile) and as an interfering contour a circle with a radius of 10 kilometers (6.2 miles).

[59 FR 59507, Nov. 17, 1994, as amended at 61 FR 31051, June 19, 1996]

### §22.539 Additional channel policies.

The rules in this subsection govern the processing of applications for a paging channel when the applicant has applied for or been granted an authorization for other paging channels in the same geographic area. This section applies to applications proposing to use the channels listed in §22.531, excluding the nationwide network paging channels and broadcast station subcarriers, or the channels listed in §22.561, where the application proposes to use those channels to provide paging service only. The general policy of the Commission is to assign one paging channel in an area to a carrier per application cycle. That is, a carrier must apply for one paging channel, receive the authorization, construct the station, provide service to the subscribers, and notify the Commission of commencement of service to subscribers by using FCC Form 601 before applying for an additional paging channel in that area. This notification must be sent by electronic filing via the ULS.

(a) *VHF transmitters in same area.* Any transmitter on any VHF channel listed in §22.531 is considered to be in the same geographic area as another transmitter on any other VHF channel listed in §22.531 if:

(1) One transmitter location is within the service area of the other transmitter; or,

(2) The area within the overlap of the service contours of the two transmitters constitutes 50 percent or more of the service area of either of the transmitters.

(b) *931 MHz transmitters in same area.* Any transmitter on any 931 MHz channel is considered to be in the same geographic area as another transmitter on any channel listed in §22.531 if it is located less than 64.4 kilometers (40 miles) from the transmitter. Likewise, any transmitter on any channel listed in §22.531 is considered to be in the same geographic area as another transmitter on any 931 MHz channel if it is located less than 64.4 kilometers (40 miles) from that transmitter.

(c) *Initial channel.* The FCC will not assign more than one channel for new paging stations. Paging stations are considered to be new if there are no authorized transmitters on any channel listed in §22.531 controlled by the applicant in the same geographic area.

(d) *Additional channel.* Applications for transmitters to be located in the same geographic area as an authorized station controlled by the applicant, but to operate on a different channel, are considered as requesting an additional channel for the authorized station, unless paragraph (e) of this section applies.

(e) *Additional transmitters on same channel.* Notwithstanding other provisions of this section, the following applications are not considered to be requests for an additional paging channel:

(1) Applications for transmitters to be located in the same geographic area as an authorized station controlled by the applicant, and to operate on the same paging channel;

(2) Applications for transmitters to be located within a paging geographic area for which the applicant holds the paging geographic area authorization for the requested channel; and,

(3) Applications for paging geographic area authorizations.

(f) *Amendment of pending application.* If the FCC receives and accepts for filing an application for a transmitter to be located in the same geographic area as a transmitter proposed in a pending application previously filed by the applicant, but on a different channel, the subsequent application is considered as a major amendment to change the technical proposal of the prior application, unless paragraph (e) applies. The filing date of any application so amended is the date the FCC received the subsequent application.