the continuous carrier transmit mode for these purposes is permitted only for stations authorized and continuously licensed since before May 21, 1971.

(48) Except as noted in paragraph (b)(61) of this section, operation on this frequency is limited to a maximum output power of 20 watts.

(49) Operation on this frequency is limited to a maximum output power of 75 watts.

(50) This frequency may also be used for the transmission of tone or voice communications, including such communications when prerecorded, for purposes of automatically indicating abnormal conditions of trackage and railroad rolling stock when in motion, on a secondary basis to other stations on this frequency. All such operations shall be subject to the following:

(i) The output power shall not exceed 30 watts;

(ii) The bandwidth used shall not exceed that authorized to the licensee for voice transmissions on the frequency concerned;

(iii) The station shall be so designed and installed that it can normally be activated only by its associated automatic control equipment and, in addition, it shall be equipped with a time delay or clock device which will deactivate the station within three (3) minutes following activation by the last car in the train; and

(iv) Stations authorized pursuant to the provisions of this subparagraph are exempt from the station identification requirements of § 90.425.

(51) In Puerto Rico and the Virgin Islands only, this frequency is available on a shared basis with remote pickup broadcast stations.

(52) In Puerto Rico and the Virgin Islands only, this frequency is available to all stations operating in the Industrial/Business Pool.

(53) Frequencies in this band will be assigned only for transmitting hydrological or meteorological data or for low power wireless microphones in accordance with the provisions of § 90.265.

(54) For FM transmitters the sum of the highest modulating frequency and the amount of frequency deviation may not exceed 1.7 kHz and the maximum deviation may not exceed 1.2 kHz. For AM transmitters the highest modulating frequency may not exceed 1.2 kHz. The carrier frequency must be maintained within 0.0005 percent and the authorized bandwidth may not exceed 3 kHz.

(55) This band is available to stations operating in this service subject to the provisions of § 90.259.

(56) Subpart T contains rules for assignment of frequencies in the 220-222 MHz band.

(57) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(58) Operational fixed assignments on this frequency will only be made to an itinerant fixed control or relay station on a secondary basis to land-mobile stations in the Industrial/Business Pool, provided that the fixed relay or control station is to be associated with base and mobile facilities authorized to use other frequencies available for itinerant operation in the Industrial/Business Pool. All such use of these frequencies for fixed systems is limited to locations 161 or more km. (100 mi.) from the center of any urbanized area of 200,000 or more population, except that the distance may be 120 km. (75 mi.) if the output power does not exceed 20 watts. All such fixed systems are limited to a maximum of two frequencies and must employ directional antennas with a front-to-back ratio of at least 15 dB. The centers of urbanized areas of 200,000 or more population are determined from the appendix, page 226, of the U.S. Commerce publication, "Air Line Distance Between Cities in the United States. "Urbanized areas of 200,000 or more population are defined in the U.S. Census of Population, 1960, volume 1, table 23, page 1-50.

(59) On a secondary basis this frequency may be assigned for remote control of all types of locomotives and, within a railroad yard or terminal area, for remote control of cab indicator devices placed with a locomotive to give visual signals to the operator of the locomotive. (A1, A2, F1 or F2 emissions may be authorized.)

(60) Frequencies subject to this assignment limitation are herein considered collectively for use for communications concerned with cargo handling from a dock, or a cargo handling facility, to a vessel alongside. Any number of the frequencies may be authorized to one licensee for the purpose. Mobile relay stations may be temporarily installed at or in the vicinity of a dock or cargo handling facility and used when a vessel is alongside the dock or cargo handling facility.

Mobile relay (MHz)	Mobile (MHz)
457.525	467.750
457.53125	467.75625
457.5375	467.7625
457.54375	467.76875
457.550	467.775
457.55625	467.78125
457.5625	467.7875

457.56875	467.79375
457.575	467.800
457.58125	467.80625
457.5875	467.8125
457.59375	467.81875
457.600	467.825
457.60625	467.83125
457.6125	
457.61875	

For single frequency simplex: Use mobile relay frequencies. The effective radiated power (ERP) on any frequency shall not exceed 2 watts. The center of the radiating system of the on-board repeater antenna shall be located no more than 3 m (10 ft.) above the vessel's highest working deck.

(61) This frequency is available for assignment as follows:

(i) To persons furnishing commercial air transportation service or, pursuant to § 90.179, to an entity furnishing radio communications service to persons so engaged, for stations located on or near the airports listed in paragraph (b)(61)(iv) of this section. Stations will be authorized on a primary basis and may be used only in connection with the servicing and supplying of aircraft.

(ii) To stations in the Industrial/Business Pool for secondary use at locations 80 km (50 mi) or more from the coordinates of the listed airports at a maximum ERP of 300 watts.

(iii) To stations in the Industrial/Business Pool for secondary use at locations 16 km (10 mi) or more from the coordinates of the listed airports at a maximum transmitter output power of 2 watts. Use of the frequency is restricted to the confines of an industrial complex or manufacturing yard area. Stations licensed prior to April 17, 1986 may continue to operate with facilities authorized as of that date.

(iv) The airports and their respective reference coordinates are:

City and airport	Reference coordinate	
	Latitude	Longitude
Akron, OH: Akron-Canton Regional (CAK)	40° 55' 01" N	81° 26' 30" W
Albany-Troy -Schenectady, NY: Albany County (ALB)	42° 44' 53" N	73° 48' 12" W

City and airport	Reference coordinate	
	Latitude	Longitude
Albuquerque,NM:		
Albuquerque International (ABQ)	35° 02' 30" N	106° 36' 23" W
Allentown-Bethlehem, PA:		
Allentown-Bethlehem-Easton (ABE)	40° 39' 11" N	75° 26' 25" W
Anchorage, AK:		
Anchorage International (ANC)	61° 10' 30" N	149° 59' 38" W
Atlanta, GA:		
Atlanta International (ATL)	33° 38' 25" N	84° 25' 37" W
Dekalb-Peachtree (PDK)	33° 52' 30" N	84° 18' 08" W
Fulton County (FTY)	33° 46' 45" N	84° 31' 17" W
Baltimore, MD:		
Baltimore-Washington Int'l (BWI)	39° 10' 30" N	76° 40' 10" W
Birmingham, AL:		
Birmingham Municipal (BHM)	33° 33' 50" N	86° 45' 16" W
Boston, MA:		
Logan International (BOS)	42° 21' 51" N	71° 00' 21" W
Bridgeport, CT:		
Sikorsky Memorial (BDR)	41° 09' 49" N	73° 07' 35" W
Buffalo, NY:		
Greater Buffalo Int'l (BUF)	42° 56' 26" N	78° 43' 57" W
Canton, OH:		
Akron-Canton Regional (CAK)	40° 55' 01" N	81° 26' 30" W
Charlotte, NC:		
Charlotte-Douglas Int'l (CLT)	35° 12' 52" N	80° 56' 37" W
Chattanooga, TN:		
Lovell (CHA)	35° 02' 07" N	85° 12' 15" W
Chicago,IL-Northwest, IN:		
Chicago-Wheeling-Palwaukee (PWK)	42° 06' 48" N	87° 54' 03" W
Meigs (CGX)	41° 51' 32" N	87° 36' 28" W
Michiana Regional (SBN)	41° 42' 18" N	86° 18' 59" W
Midway (MDW)	41° 47' 10" N	87° 45' 08" W
O' Hare International (ORD)	41° 58' 48" N	87° 54' 16" W
West Chicago-Dupage (DPE)	41° 54' 52" N	88° 14' 47" W

City and airport	Reference coordinate	
	Latitude	Longitude
Cincinnati, OH:		
Greater Cincinnati Int'l (CVG)	39° 14' 59" N	84° 23' 14" W
Lunken (LUK)	39° 06' 12" N	84° 25' 08" W
Cleveland, OH:		
Burke Lakefront (BKL)	41° 31' 03" N	81° 41' 01" W
Cuyahoga County (CGF)	41° 33' 54" N	81° 29' 11" W
Hopkins International (CLE)	41° 24' 38" N	81° 50' 58" W
Columbus, OH:		
Port Columbus Int'l (CMH)	39° 59' 42" N	82° 53' 11" W
Dallas, TX:		
Addison (ADS)	32° 58' 06" N	96° 50' 10" W
Dallas-Ft. Worth Regional (DFW)	32° 53' 45" N	97° 02' 10" W
Dallas-Love Field (DAL)	32° 50' 49" N	96° 51' 05" W
Red Bird (RBD)	32° 40' 49" N	96° 52' 02" W
Davenport, IA (Rock Island, Moline, IL):		
Davenport Municipal (DVN)	41° 36' 42" N	90° 35' 21" W
Quad City (MLI)	41° 26' 56" N	90° 30' 35" W
Dayton, OH:		
Dayton International (DAY)	39° 54' 04" N	84° 13' 12" W
Denver, CO:		
Centennial (APA)	39° 34' 19" N	104° 50' 54" W
Colorado Springs Municipal (COS)	38° 48' 31" N	104° 42' 35" W
Denver-Jeffco (BJC)	39° 54' 28" N	105° 26' 53" W
Stapleton International (DEN)	39° 46' 22" N	104° 52' 38" W
Des Moines, IA:		
Des Moines Municipal (DSM)	41° 32' 06" N	93° 39' 38" W
Detroit, MI:		
Detroit City (DET)	42° 24' 33" N	83° 00' 36" W
Detroit Metro-Wayne County (DTW)	42° 12' 55" N	83° 20' 55" W
Oakland-Pontiac (PTK)	42° 39' 54" N	83° 25' 05" W
Willow Run (YIP)	42° 14' 16" N	83° 31' 50" W
El Paso, TX:		
El Paso International (ELP)	31° 48' 24" N	106° 22' 38" W

City and airport	Reference coordinate	
	Latitude	Longitude
Flint, MI:		
Bishop (FNT)	42° 57' 56" N	83° 44' 37" W
Ft. Lauderdale-Hollywood, FL:		
Ft. Lauderdale Executive (FXE)	26° 11' 49" N	80° 10' 15" W
Ft. Lauderdale-Hollywd Int'l (FLL)	26° 04' 19" N	80° 09' 13" W
Ft. Worth,TX:		
Meacham (FTW)	32° 49' 09" N	97° 21' 41" W
Fresno, CA:		
Chandler Downtown (FCH)	36° 43' 56" N	119° 49' 08" W
Fresno Air Terminal (FAT)	36° 46' 36" N	119° 43' 02" W
Grand Rapids, MI:		
Kent County Int'l (GRR)	42° 52' 57" N	85° 31' 26" W
Hana, HI:		
Hana (HNN)	20° 47' 56" N	156° 01' 02" W
Harrisburg, PA:		
Capital City (CXY)	40° 13' 01" N	76° 51' 06" W
Harrisburg Int'l (MDT)	40° 11' 36" N	76° 45' 49" W
Hartford, CT (Windsor Locks):		
Bradley Int'l (BDL)	41° 56' 20" N	72° 41' 01" W
Hartford-Brainard (HFD)	41° 44' 10" N	72° 39' 02" W
Hilo, HI:		
General Lyman Field (ITO)	19° 43' 24" N	155° 03' 05" W
Honolulu, HI:		
Honolulu International (HNL)	21° 19' 20" N	157° 55' 27" W
Houston, TX:		
W. P. Hobby (HOU)	29° 38' 43" N	95° 16' 43" W
D. W. Hooks Memorial (DWH)	30° 03' 50" N	95° 33' 11" W
Houston Intercontinental (IAH)	29° 58' 55" N	95° 20' 45" W
Indianapolis, IN:		
Indianapolis Int'l (IND)	39° 43' 32" N	86° 17' 02" W
Jacksonville, FL:		
Craig Municipal (CRG)	30° 20' 10" N	81° 30' 53" W
Jacksonville Int'l (JAX)	30° 29' 33" N	81° 41' 24" W

City and airport	Reference coordinate	
	Latitude	Longitude
Kahului, HI:		
Kahului (OGG)	20° 54' 07" N	156° 25' 59" W
Kailula-Kona, HI:		
Ke-Ahole (KOA)	19° 44' 08" N	156° 25' 06" W
Kameula, HI:		
Waimea-Kohala (MUE)	20° 00' 16" N	155° 40' 15" W
Kansas City, MO-KS:		
Fairfax Municipal (KCK)	39° 08' 50" N	94° 56' 14" W
Kansas City Int'l (MCI)	39° 17' 57" N	94° 43' 04" W
Kansas City Municipal Dntn (MKC)	39° 07' 24" N	94° 35' 33" W
Richard-Gebaur (GBW)	38° 50' 37" N	94° 33' 37" W
Kauna Kakai, HI:		
Molokai (MKK)	21° 09' 22" N	157° 55' 07" W
Las Vegas, NV:		
McCarran INt'l (LAS)	36° 04' 58" N	115° 09' 13" W
Lihue, HI:		
Lihue (LIH)	21° 58' 42" N	159° 20' 40" W
Los Angeles,CA:		
Burbank-Glendale-Pasadena (BUR)	34° 21' 02" N	118° 21' 27" W
Catalina (AVX)	33° 24' 20" N	118° 24' 50" W
Long Beach-Daugherty Field (LGB)	33° 49' 03" N	118° 09' 03" W
Los Angeles Int'l (LAX)	33° 56' 33" N	118° 24' 26" W
Ontario Int'l (ONT)	34° 03' 22" N	117° 36' 11" W
Santa Ana-John Wayne-Orange City (SNA)	33° 40' 32" N	117° 52' 02" W
Louisville, KY:		
Standiford Field (SDF)	38° 10' 40" N	85° 44' 11" W
Memphis, TN:		
Memphis Int'l (MEM)	35° 02' 59" N	89° 58' 43" W
Miami, FLA:		
Miami Int'l (MIA)	25° 47' 34" N	80° 17' 26" W
Opa Locka (OPF)	25° 54' 25" N	80° 16' 50" W
Tamiami (TMB)	25° 38' 51" N	80° 25' 59" W

City and airport	Reference coordinate	
	Latitude	Longitude
Milwaukee, WI:		
General Mitchell (MKE)	42° 56' 49" N	87° 53' 49" W
Minneapolis-St. Paul, MN:		
Minneapolis-St. Paul (MSP)	44° 53' 03" N	93° 12' 54" W
Mobile, AL:		
Bates Field (MOB)	30° 41' 23" N	88° 14' 31" W
Nashville, TN:		
Nashville Metropolitan (BNA)	36° 07' 37" N	86° 40' 53" W
New Haven, CT:		
Tweed-New Haven Municipal (HVN)	41° 15' 50" N	72° 53' 15" W
New Orleans, LA:		
Lakefornt (NEW)	30° 02' 33" N	90° 01' 41" W
New Orleans Int'l (MSY)	29° 59' 34" N	90° 15' 23" W
Newport News-Hampton,VA:		
Patrick Henry Int'l (PHF)	37° 07' 54" N	76° 29' 36" W
New York-Northeast, NJ:		
Farmingdale Republic (FRG)	40° 43' 43" N	73° 24' 50" W
JFK International (JFK)	40° 38' 25" N	73° 46' 42" W
LaGuardia (LGA)	40° 46' 38" N	73° 52' 27" W
Long Island-McArthur (ISP)	40° 47' 44" N	73° 06' 00" W
Morristown Municipal (NJ) (MMU)	40° 47' 57" N	74° 24' 55" W
Newark Int'l (FWR)	40° 41' 35" N	74° 10' 07" W
Teterboro (NJ) (TEB)	40° 51' 00" N	74° 03' 41" W
Norfolk-Portsmouth, VA:		
Norfolk Int'l (ORF)	36° 53' 40" N	76° 12' 06" W
Oklahoma City, OK:		
Wiley Post (DWA)	35° 32' 03" N	97° 38' 48" W
Will Rogers World (OKC)	35° 23' 35" N	97° 36' 02" W
Omaha, NE:		
Eppley Airfield (OMA)	41° 18' 04" N	95° 53' 36" W

City and airport	Reference coordinate	
	Latitude	Longitude
Orlando, FL:		
Orlando Executive (ORL)	28° 32' 43" N	81° 19' 59" W
Orlando Int'l (MCO)	28° 25' 54" N	81° 19' 29" W
Philadelphia, PA-NJ:		
Northeast Philadelphia (PNE)	40° 04' 55" N	75° 00' 40" W
Philadelphia Int'l (PHC)	39° 52' 13" N	75° 14' 43" W
Phoenix, AZ:		
Phoenix-Sky Habor Int'l (PHX)	33° 26' 10" N	112° 00' 32" W
Scottsdale Municipal (SDC)	33° 37' 22" N	111° 54' 35" W
Pittsburgh, PA:		
Allegheny County (AGC)	40° 21' 16" N	79° 55' 49" W
Greater Pittsburgh Int'l (PIT)	40° 29' 30" N	80° 13' 55" W
Portland, OR:		
Portland-Hillsboro (HIO)	45° 32' 26" N	122° 56' 55" W
Portland International (PDX)	45° 35' 20" N	122° 35' 47" W
Portland-Troutdale (TTD)	45° 32' 58" N	122° 24' 00" W
Providence-Pawtucket, RI--MA:		
North Central State (SFZ)	41° 55' 15" N	71° 29' 30" W
T. F. Green State (PVD)	41° 43' 31" N	71° 25' 41" W
Reno, NV:		
Reno International (RNO)	39° 29' 52" N	119° 46' 04" W
Richmond, VA:		
Byrd International (RIC)	37° 30' 18" N	77° 19' 12" W
Rochester, NY:		
Rochester-Monroe County (ROC)	43° 07' 08" N	77° 40' 22" W
Sacramento, CA:		
Sacramento Executive (SAC)	38° 30' 45" N	121° 29' 33" W
Sacramento Metropolitan (SMF)	38° 41' 44" N	121° 36' 01" W
St. Louis, MO--IL:		
Spirit of St. Louis (SUS)	38° 39' 36" N	90° 38' 43" W
St. Louis-Lambert Int'l (STC)	38° 44' 51" N	90° 21' 39" W

City and airport	Reference coordinate	
	Latitude	Longitude
St. Petersburg, FL:		
Albert Whitted Municipal (SPG)	27° 45' 53" N	82° 37' 39" W
Clearwater Int'l (PIE)	27° 54' 38" N	82° 41' 16" W
Salt Lake City, UT:		
Salt Lake City Int'l (SLC)	40° 47' 13" N	111° 58' 05" W
San Antonio, TX:		
San Antonio Int'l (SAT)	29° 32' 00" N	98° 28' 10" W
San Bernardino, CA:		
Ontario Int'l (ONT)	34° 03' 22" N	117° 36' 11" W
San Diego, CA:		
Lindbergh Int'l (SAN)	32° 44' 01" N	117° 11' 12" W
San Francisco-Oakland, CA:		
Metropolitan Oakland Int'l (OAK)	37° 43' 17" N	122° 13' 11" W
San Francisco Int'l (SFO)	37° 37' 08" N	122° 22' 26" W
San Jose, CA:		
San Jose Int'l (SJC)	37° 21' 41" N	121° 55' 38" W
Scranton, PA:		
Wilkes-Barre Scranton Int'l (AVP)	41° 20' 20" N	75° 43' 27" W
Seattle, WA:		
King County Int'l (BFI)	47° 31' 49" N	122° 18' 03" W
Seattle-Tacoma Int'l (SEA)	47° 26' 57" N	122° 18' 29" W
Shreveport, LA:		
Shreveport Downtown (DTN)	32° 32' 23" N	93° 44' 40" W
Shreveport Regional (SHV)	32° 26' 48" N	93° 49' 30" W
South Bend, IN:		
Michiana Regional (SBW)	41° 42' 18" N	86° 18' 59" W
Spokane, WA:		
Grant County (MWH)	47° 12' 28" N	119° 19' 08" W
Spokane Int'l (GEG)	47° 37' 12" N	117° 31' 58" W
Springfield, MA:		
Barnes Municipal (BAF)	42° 09' 28" N	72° 42' 58" W
Westover Field (CEF)	42° 11' 52" N	72° 31' 50" W

City and airport	Reference coordinate	
	Latitude	Longitude
Syracuse, NY: Syracuse-Hancock Int'l (SYR)	43° 06' 44" N	76° 06' 32" W
Tacoma, WA: Tacoma Narrows (TIW)	47° 16' 05" N	122° 34' 37" W
Tampa, FL: Tampa Int'l (TPA)	27° 58' 31" N	82° 32' 00" W
Toledo, OH: Toledo Express (TOL)	41° 35' 15" N	83° 48' 19" W
Trenton, NJ-PA: Mercer County (TTN)	40° 16' 38" N	74° 48' 50" W
Tucson, AZ: Tucson Int'l (TUS)	32° 07' 06" N	110° 56' 35" W
Tulsa, OK: R. L. Jones, Jr. (RVS) Tulsa Int'l (TUL)	36° 02' 18" N 36° 11' 54" N	95° 59' 05" W 95° 53' 16" W
Washington, DC: Dulles International (IAD) National (DCA)	38° 56' 39" N 38° 51' 07" N	77° 27' 26" W 77° 02' 17" W
Wichita, KS: Mid-Continent (ICT)	37° 39' 00" N	97° 25' 58" W
Wilkes-Barre, PA: Wilkes-Barre-Scranton (AVP)	41° 20' 20" N	75° 43' 27" W
Wilmington, DE: Gr. Wilm.-New Castle City (ILG)	39° 40' 42" N	75° 36' 25" W
Worcester, MA: Worcester Municipal (ORH)	42° 16' 02" N	71° 52' 34" W
Youngstown-Warren, OH-PA: Youngstown Municipal (YNG)	41° 15' 32" N	80° 40' 34" W

(62) This frequency may be assigned to fixed stations in the Industrial/Business Pool in accordance with the provisions of § 90.261.

(63) Within the boundaries of urbanized areas of 200,000 or more population, defined in the United States Census of Population, 1960, vol. 1, table 23, page 1-50, this frequency may be used only by persons rendering a central station commercial protection service within the service area of the radio station utilizing the frequency and may be used only for communications pertaining to safety of life and property, and for maintenance or testing of the protection facilities. Central Station commercial protection service is defined as an electrical protection and supervisory service rendered to the public from and by a central station accepted and certified by one or more of the recognized rating agencies, or the Underwriters Laboratories' (UL), or Factory Mutual System. Other stations in the Industrial/Business Pool may be licensed on this frequency only when all base, mobile relay and control stations are located at least 120 km (75 miles) from the city center or centers of the specified urbanized areas of 200,000 or more population. With respect to combination urbanized areas containing more than one city, 120 km (75 mile) separation shall be maintained from each city center which is included in the urbanized area. The locations of centers of cities are determined from appendix, page 226, of the U.S. Commerce publication "Air Line Distance Between Cities in the United States."

(64) Persons who render a central station commercial protection service are authorized to operate fixed stations on this frequency for the transmission of tone or impulse signals on a secondary, noninterference base-to-base/ mobile operations subject to the following conditions and limitations.

(i) Secondary fixed operations may be used only for the following purposes.

(A) Indication of equipment malfunction.

(B) Actuation of a device to indicate the presence of an intruder, fire, or other hazardous condition on the property under the protection of the licensee.

(C) Indication of an abnormal condition in facilities under the protection of the licensee that, if not promptly reported, would result in danger to human life.

(D) Transmission, as may be necessary, to verify status of equipment; adjust operating conditions; or correct any abnormal condition.

(E) Confirmation of status, or that an operation or correction has been accomplished.

(ii) The maximum duration of any one non-voice signal may not exceed 2 seconds and shall not be transmitted more than three times.

(iii) Systems employing automatic interrogation shall be limited to non-voice techniques and shall not be activated for this purpose more than 10 seconds out of any 60-second period. This 10-second frame includes both transmit and response times.

(iv) The bandwidth shall not exceed that authorized to the licensee for the primary operation on the frequency concerned.

(v) Frequency loading resulting from the use of secondary signaling will not be considered in whole or in part as a justification for authorizing additional frequencies in the licensee's mobile system.

(vi) A mobile service frequency may not be used exclusively for secondary signaling.

(vii) The output power shall not exceed 30 watts (at the remote site).

(viii) A1D, A2D, F1D, or F2D emission may be authorized.

(ix) The transmitter shall be designed to deactivate automatically after 3 minutes of continuous carrier radiation.

(x) Operational fixed stations authorized under this paragraph are exempt from the requirements of §§ 90.137(b), 90.429(d), 90.425 and 90.433.

(xi) On these frequencies, base, mobile relay or mobile stations may transmit secondary tone or impulse signals to receivers, as provided in this section.

(65) Licensees providing a central station commercial protection service may communicate with police or fire stations, or vehicles, on this frequency, and may install licensed transmitting units which operate on this frequency at police or fire stations, or in police or fire vehicles, if the frequency's primary use is in a base/mobile system for a central station commercial protection service.

(66) This frequency may be assigned only to persons rendering a central station commercial protection service, which is defined in paragraph (b)(63) of this section, within the service area of the radio station utilizing the frequency.

(67) Use of this frequency is on a secondary basis and subject to the provisions of § 90.267(a)(3), (a)(4), (a)(5), and (a)(7).

(68) Maximum permissible power output for stations on airports is 3 watts. Each station authorized on this frequency will be classified and licensed as a mobile station. Any units of such a station, however, may provide the functions of a base station on a secondary basis to mobile service operations provided that the vertical separation between the control point or ground level and the center of the radiating portion of the antenna of any units so used shall not exceed 8 m (25 ft.).

(69) This frequency may be used on a secondary, non-interference basis by a hospital or health care institution holding a license to operate a radio station under this part to operate a medical radio telemetry device with an output power not to exceed 20 milliwatts without specific authorization from the Commission.

(70) Subpart L contains rules for assignment of frequencies in the 470-512 MHz band.

(71) Subpart S contains rules for assignment of frequencies in the 806- 821/851-866 and 896-901/935-940 MHz bands.

(72) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by Part 101 of this chapter.

(73) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(74) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5-2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(75) Use of frequencies in this band is limited to developmental operation and is subject to the provisions of Subpart Q.

(76) The frequencies in the band 10.55-10.68 GHz are available for Digital Termination Systems and for associated intermodal links in the Point-to-Point Microwave Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(77) All communications on this frequency must be conducted within the boundaries or confines of the licensee's business premises.

(c) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service. (See also § 90.253.)

(1) Frequencies may be substituted for those available below 25 MHz in accordance with the provisions of § 90.263.

(2) Frequencies in the band 73.0-74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. (See also § 90.257.)

(3) Frequencies in the 421-430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§ 90.273 through 90.281.

(4) The following frequencies are available only in Puerto Rico and the Virgin Islands. These "Base and Mobile" and "Mobile only" frequencies are available on a shared basis with the Public Safety Pool. These "Mobile only" frequencies may be assigned to a control station associated with a mobile relay system if it is also assigned to the associated mobile station.

Base and mobile	Mobile only
159.240	160.410
159.2475	160.4175
159.255	160.425
159.2625	160.4325
159.270	160.440
159.2775	160.4475
159.285	160.455
159.2925	160.4625
159.300	160.470
159.3075	160.4775
159.315	160.485
159.3225	160.4925
159.330	160.500
159.3375	160.5075
159.345	160.515

159.3525	160.5225
159.360	160.530
159.3675	160.5375
159.375	160.545
159.3825	160.5525
159.390	160.560
159.3975	160.5675
159.405	160.575
159.4125	160.5825
159.420	160.590
159.4275	160.5975
159.435	160.605
159.4425	160.6125

(5) Low power mobile stations of 100 mw or less output power used for one-way, non-voice medical telemetry operations in hospitals or in medical convalescent centers are subject to the provisions of § 90.238.

(6) The frequency band 33.00-33.01 MHz may be used for developmental operations subject to the provisions of Subpart Q. Any type of emission other than pulsed emission may be used if the bandwidth occupied by the emission is contained within the assigned frequency band.

(d) *Limitation on number of frequencies assignable.* Normally only one frequency, or pair of frequencies in the paired frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with operation of mobile repeaters in accordance with § 90.247 notwithstanding this limitation.

(2) Frequencies in the ranges 30.56-30.57 MHz, 35.00-35.01 MHz, 35.99-36.00 MHz, and 37.00-37.01 MHz are available for developmental operation by applicants in this service subject to the provisions of Subpart Q, notwithstanding this limitation.

(3) Frequencies in the 25-50 MHz, 150-170 MHz, 450-512 MHz and 902-928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(4) Authorizations for multiple frequencies for geophysical operations will be granted on the frequencies governed by the limitations in paragraphs (b)(3) and (4) of this section notwithstanding this limitation. However, each geophysical exploration party may only use a maximum of four frequencies at any one time.

(5) Authorization for more than one mobile frequency in the band 72-76 MHz will be issued notwithstanding this limitation.

(6) This limitation shall not apply to paragraph (b)(1) of this section.

(7) Frequencies in the 457 and 467 MHz bands may be assigned collectively as provided by paragraph (b)(60) of this section notwithstanding this limitation.

(e) *Limitation on itinerant operation.* Base or mobile stations being utilized in itinerant operation will be authorized only on base or mobile frequencies designated for itinerant operation under paragraphs (b)(10) or (b)(17) of this section, or on other frequencies not designated for permanent use.

(f) The frequencies 10-490 kHz are used to operate electric utility Power Line Carrier (PLC) systems on power transmission lines for communications essential to the reliability and security of electric service to the public, in accordance with Part 15 of this chapter. Any electric utility that generates, transmits, or distributes electrical energy for use by the general public or by the members of a cooperative organization may operate PLC systems and shall supply to a Federal Communications Commission/National Telecommunications and Information Administration recognized industry-operated entity, information on all existing, changes to existing, and proposed systems for inclusion in a data base. Such information shall include the frequency, power, location of transmitter(s), location of receivers and other technical and operational parameters, which would characterize the system's potential both to interfere with authorized radio users, and to receive harmful interference from these users. In an agreed upon format, the industry-operated entity shall inform the NTIA and the FCC of these system characteristics prior to implementation of any proposed PLC system and shall provide monthly or periodic lists with supplements of PLC systems. The FCC and NTIA will supply appropriate application and licensing information to the notification activity regarding authorized radio stations operating in the band. PLC systems in this band operate on a noninterference basis to radio systems assigned frequencies by the NTIA or licensed by the FCC and are not protected from interference due to these radio operations.

Subparts D-E [Removed and reserved]

11. Subparts D and E are removed and reserved.

12. Section 90.127 is amended by revising the first sentence of paragraph (a) and the first sentence of paragraph (a)(1) to read as follows:

§ 90.127 Submission and filing of applications.

(a) All applications for private land mobile licenses that require both frequency coordination and fees as set forth at part 1, subpart G of this chapter shall first be sent to a certified coordinator for the radio pool concerned as specified in §§ 90.20(c)(2) and 90.35(a)(2). * * *

(1) All applications for private land mobile licenses that require frequency coordination but not a fee shall be sent to a certified coordinator for the radio pool concerned as specified in §§ 90.20(c)(2) and 90.35(a)(2). * * *

* * * * *

13. Section 90.129 is amended by revising paragraphs (h) and (n) and the introductory text in paragraphs (m) and (o) to read as follows:

§ 90.129 Supplemental information to be routinely submitted with applications.

* * * * *

(h) Requests for authorization to communicate with foreign stations in accordance with § 90.20(b) or § 90.417;

* * * * *

(m) Applicants requesting licenses to operate on frequencies pursuant to § 90.20(d)(6) must submit disaster communications plans containing the following information:

* * * * *

(n) All applications for renewal of base/mobile station licenses by licensees who also operate wildlife tracking telemetry transmitters, as described in § 90.20(f)(7), must include a

statement detailing the number of units in service, by frequency, on Public Safety Pool frequencies as the time the renewal application is filed.

(o) Applicants requesting licenses to operate on frequencies pursuant to § 90.35(b)(1) must submit communications plans containing the following information:

* * * * *

14. Section 90.138 is revised to read as follows:

§ 90.138 Applications for itinerant frequencies.

An application for authority to conduct an itinerant operation in the Industrial/Business Pool must be restricted to use of itinerant frequencies or other frequencies not designated for permanent use and need not be accompanied by evidence of frequency coordination. Users should be aware, however, that no protection is provided from interference from other itinerant operations.

15. Section 90.145 is amended by revising paragraphs (b)(6) and (b)(13) to read as follows:

§ 90.145 Special temporary authority.

* * * * *

(b) * * *

(6) Class of station and name of radio service or radio pool;

* * * * *

(13) Statement of eligibility for a radio service or radio pool under this part.

* * * * *

16. Section 90.149 is amended by revising paragraph (a) to read as follows:

§ 90.149 License term.

(a) Licenses for stations authorized under this part will be issued for a term not to exceed five (5) years from the date of the original issuance, modification, or renewal, except that the license term for stations licensed as commercial mobile radio service on 220-222 MHz, 929-930 MHz paging, Industrial/Business Pool, and SMR frequencies shall be ten (10) years. Licensees shall have an additional thirty (30) days after the expiration of the license term to apply for reinstatement of expired licenses.

* * * * *

17. Section 90.159 is amended by revising paragraph (b)(6), the introductory text of paragraph (b), the last sentence of paragraph (c), and the fourth sentence of paragraph (d) to read as follows:

§ 90.159 Temporary and conditional permits.

* * * * *

(b) An applicant proposing to operate a new land mobile radio station or modify an existing station below 470 MHz or in the one-way paging 929-930 MHz band (other than a commercial mobile radio service applicant or licensee on these bands) that is required to submit a frequency recommendation pursuant to paragraphs (b) through (h) of § 90.175 may operate the proposed station during the pendency of its application for a period of up to one hundred eighty (180) days under a conditional permit upon the filing of a properly completed formal application that complies with § 90.127 if the application is accompanied by evidence of frequency coordination in accordance with § 90.175 and provided that the following conditions are satisfied:

* * * * *

(6) The applicant has submitted an application to the Commission stating the frequency the applicant intends to use and that the frequency coordination requirements specified in § 90.175 for selection and use of this frequency have been met and a minimum of ten business days has passed between submission of the application to the Commission and the onset of operation.

(c) * * * All other categories of applications listed in § 90.175(i) that do not require evidence of frequency coordination are excluded from the provisions of this rule section.

(d) * * * Consistent with § 90.175(g), the applicant assumes all risks associated with operation under conditional authority, the termination or modification of conditional authority, or the subsequent dismissal or denial of its application. * * *

* * * * *

18. Section 90.167 is amended by revising paragraph (a) to read as follows:

§ 90.167 Time in which a station must commence service.

(a) Unless otherwise specified in this part, all 220-222 MHz, private carrier paging, Industrial/Business Pool, and SMR licensees must commence service within twelve (12) months from the date of grant or the authorization cancels automatically and must be returned to the Commission.

* * * * *

19. Section 90.173 is amended by revising paragraphs (a), (f), (g), (h), (l), and (m), and the third sentence of paragraph (i), and removing and reserving paragraph (j) to read as follows:

§ 90.173 Policies governing the assignment of frequencies.

(a) The frequencies which ordinarily may be assigned to stations in the services governed by this part are listed in subparts B, C and F of this part. Frequencies other than those listed in subparts B and C may be assigned in the 150-174 MHz, 421-430 MHz, 450-470 MHz, and 470-512 MHz bands, provided such applications are accompanied by a showing of frequency coordination in accordance with the requirements of Section 90.175 of this part. Except as otherwise specifically provided in this part, frequencies assigned to land mobile stations are available on a shared basis only and will not be assigned for the exclusive use of any licensee.

* * * * *

(f) Applications for stations in the 150-174 MHz and 421-512 MHz bands for operation on frequencies 15 kHz or less removed from existing stations in the same geographic area will be granted based upon a recommendation from the applicable frequency coordinator as specified in §§ 90.20(c)(2) and 90.35(a)(2).

(g) In the states of Alaska and Hawaii, and in areas outside the continental limits of the United States and the adjacent waters, the frequencies above 150.8 MHz which are listed elsewhere in this part as available for assignment to base stations or mobile stations in the Industrial/Business Pool, are also available for assignment to operational fixed stations in the Industrial/Business Pool on a secondary basis.

(h) In the Public Safety Pool, base stations may be authorized to operate on a secondary basis on frequencies below 450 MHz which are available to mobile stations.

(i) * * * In the Industrial/Business Pool, in the 150 MHz band, the frequencies subject to § 90.35(b)(6) may be assigned in pairs with the separation between base and mobile frequencies being 5.26 MHz. * * *

(j) [Reserved]

* * * * *

(l) In the 150-174 MHz band, except where otherwise specifically provided, authorizations for frequencies that were available prior to August 18, 1995 will be granted with channel bandwidths of 25 kHz or less. Authorizations for all other frequencies in this band will be granted with channel bandwidths of 12.5 kHz or less (*i.e.*, in the Public Safety Pool, frequencies subject to §§ 90.20(d)(27) and (d)(44), and in the Industrial/Business Pool, frequencies subject to §§ 90.35(b)(30) and (b)(33)).

(m) In the 421-512 MHz band, except where otherwise specifically provided, authorizations for frequencies that were available prior to August 18, 1995 will be granted with channel bandwidths of 25 kHz or less. New authorizations for frequencies 12.5 kHz removed from these frequencies will be made for channel bandwidths of 12.5 kHz or less (*i.e.*, In the Public Safety Pool, frequencies subject to § 90.20(d)(27) and in the Industrial/Business Pool, frequencies subject to § 90.35(b)(30)). Authorizations for frequencies 6.25 kHz removed from these frequencies will be granted with channel bandwidths of 6.25 kHz or less (*i.e.*, in the Public Safety Pool, frequencies subject to § 90.20(d)(44), and in the Industrial/Business Pool, frequencies subject to § 90.35(b)(33)).

20. Section 90.175 is amended by removing paragraph (g) and the last sentence of the introductory text, redesignating paragraph (a) as paragraph (b) and paragraphs (b) through (f) as paragraphs (e) through (i) respectively, adding new paragraphs (c) and (d), and revising newly redesignated paragraphs (b), (e), (i)(3), and (i)(5), and the first sentence of newly redesignated paragraph (g) to read as follows:

§ 90.175 Frequency coordination requirements.

* * * frequency assignment.

(a) Frequency coordinators may request, and applicants are required to provide, all appropriate technical information, system requirements, and justification for requested station parameters when such information is necessary to identify and recommend the most appropriate frequency. Additionally, applicants bear the burden of proceeding and the burden of proof in requesting the Commission to overturn a coordinator's recommendation.

(b) *For frequencies between 25 and 470 MHz*: A statement is required from the applicable frequency coordinator as specified in §§ 90.20(c)(2) and 90.35(a)(2) recommending the most appropriate frequency. The coordinator's recommendation may include comments on technical factors such as power, antenna height and gain, terrain, and other factors which may serve to minimize potential interference.

(c) *For frequencies above 800 MHz*: When frequencies are shared by more than one service, concurrence must be obtained from the other applicable certified coordinators.

(d) *For Frequencies in the 450-470 MHz band*: When used for secondary fixed operations, frequencies shall be assigned and coordinated pursuant to § 90.261.

(e) *For frequencies between 470 and 512 MHz, 806-824/851-869 MHz, and 896-901/935-940 MHz*: A statement is required from the applicable coordinator recommending specific frequencies that are available for assignment in accordance with the loading standards and mileage separations applicable to the specific radio serve, frequency pool, or category of user involved.

* * * * *

(g) Any recommendation submitted in accordance with the paragraphs (a), (c), (d), or (e) of this section is advisory in character and is not an assurance that the Commission will grant a license for operation on that frequency. * * *

* * * * *

(i) * * *

(3) Applications for frequencies in the 72-76 MHz band except for mobile frequencies subject to § 90.35(b)(77).

* * * * *

(5) Applications in the Industrial/Business Pool requesting a frequency designated for itinerant operation only.

* * * * *

21. Section 90.176 is removed and a new section 90.176 is added to read as follows:

§ 90.176 Coordinator notification requirements on frequencies below 512 MHz.

(a) *Frequencies below 470 MHz.* Within one business day of making a frequency recommendation, each frequency coordinator must notify and provide the information indicated in paragraph (e) of this section to all other frequency coordinators who are also certified to coordinate that frequency.

(1) The applicable frequency coordinator for each frequency is specified in the coordinator column of the frequency tables of §§ 90.20(c)(3) and 90.35(a)(3).

(2) For frequencies that do not specify any frequency coordinator, all certified in-pool coordinators must be notified.

(3) For frequencies that are shared between the Public Safety Pool and the Industrial/Business Pool (frequencies subject to §§ 90.20(d)(7), (d)(25), (d)(34), or (d)(46) in the Public Safety Pool, and subject to §§ 90.35(b)(13), (b)(25), or (c)(4) in the Industrial/Business Pool), all certified coordinators of both pools must be notified.

(b) *Frequencies in the 470-512 MHz band.* Within one business day of making a frequency recommendation, each frequency coordinator must notify and provide the information indicated in paragraph (e) of this section to all other certified frequency coordinators in the Public Safety Pool and the Industrial/Business Pool.

(c) Each frequency coordinator must also notify all other certified in-pool coordinators on any day that the frequency coordinator does not make any frequency recommendations.

(d) Notification must be made to all coordinators at approximately the same time and can be made using any method that ensures compliance with the one business day requirement.

(e) At a minimum the following information must be included in each notification:

(1) Name of applicant;

(2) Frequency or frequencies recommended;

(3) Antenna locations and heights;

(4) Effective radiated power (ERP);

(5) Type(s) of emissions;

(6) Description of the service area; and

(7) Date and time of recommendation.

(f) Upon request, each coordinator must provide any additional information requested from another certified coordinator regarding a pending recommendation that it has processed but has not yet been granted by the Commission.

(g) It is the responsibility of each coordinator to insure that its frequency recommendations do not conflict with the frequency recommendations of any other frequency coordinator. Should a conflict arise, the affected coordinators are jointly responsible for taking action to resolve the conflict, up to and including notifying the Commission that an application may have to be returned.

22. Section 90.187 is added to read as follows:

§ 90.187 Trunking in the bands between 150 and 512 MHz.

(a) Applicants for trunked systems operating on frequencies between 150 and 512 MHz (except 220-222 MHz) must indicate on their applications (class of station code, see § 1.952 or Instructions for FCC Form 600) that their system will be trunked. Licensees of stations that are not trunked, may trunk their systems only after modifying their license (See § 90.135).

(b) In the bands between 150 and 512 MHz, trunking may be authorized under the following conditions: