EXTENDED HOURS FOR DAYTIME OPERATION, DOCKET NO. 12729:

Report finding that there is no warrant for inaugurating rulemaking looking toward extending hours.

Efficient, fair, and equitable distribution of radio service, section 307(b) of the Communications Act.—Daytime and nighttime differences in natural radio conditions considered.

Time of operation of broadcast stations, section 3.23 of rules.—Provisions considered.

Applications for station license, section 308 of the Communications Act.—Hours of station operation considered.

BEFORE THE

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON 25, D.C.

In the Matter of INQUIRY INTO THE ADVISABILITY OF AUTHORIZING STANDARD BROADCAST STATIONS TO OPERATE WITH FACILITIES LICENSED FOR DAYTIME OPERATION FROM 6 A.M. OR LOCAL SUNRISE (WHICHEVER IS EARLIER) TO 6 P.M. OR LOCAL SUNSET (WHICHEVER IS LATER).	Docket No. 12729

REPORT

(Adopted July 8, 1959)

BY THE COMMISSION:

1. On January 12, 1959, the Commission instituted an inquiry pursuant to section 403 of the Communications Act of 1934, as amended, in the above-entitled matter (FCC 59–11; 24 F.R. 375) with reference to the hours of operation of broadcasting stations licensed to broadcast during the daytime hours; i.e., between local sunrise and sunset. The notice of inquiry invited the filing of comments by interested parties concerning the service gains and losses which would result from permitting daytime stations to operate from 6 a.m. to 6 p.m. regardless of any nighttime skywave interference occurring during this time segment. The 16 issues set forth in the notice are attached as appendix III. The time for filing comments was set for April 8, 1959, and was, upon petition, extended to May 8, 1959. Comments were filed by the later date.

2. Earlier the Commission had given consideration in a rulemaking proceeding (docket No. 12274) to a petition of the Daytime Broadcasters Association [1] requesting that the rules be amended to license daytime stations to extend their broadcasting during such nighttime hours as may occur between 5 a.m. and 7 p.m. Denying the petition, the Commission decision (FCC 58–891; 23 F.R. 7488, Sept.

[1] The Daytime Broadcasters Association represents some 150 daytime radio stations throughout the United States.

19, 1958) held the record conclusively demonstrated, in view of the tremendous losses which would result to the existing radio service throughout the United States from the operation contemplated by the petition as compared with the much smaller amount of new services which would be provided in some locations,[2] that the proposal failed "to accord with the statutory standards governing radio broadcast services." Thereafter, the inquiry herein was instituted simultaneously with a denial in part and dismissal in part (FCC 59-10) of the petitioner's request for reconsideration of that action. The petitioner's request for reconsideration had also requested, as an alternative to the earlier petition, the licensing of daytime stations to operate during such nighttime hours as may occur between 6 a.m. and 6 p.m., the time segments considered herein.

3. Under the Communications Act of 1934, as amended, the Commission may, with certain exceptions not relevant here, grant licenses only upon written applications which are required to set forth, among other things, the hours of the day during which it is proposed to operate the station. Each initial license granted for a station and each renewal of license which is granted specifies the hours during which the station is authorized to operate and the hours so specified, with the exception of certain provisions of the existing rules as discussed below, are the maximum hours during which any station may be operated under its license. In accordance with section 3.23 of the rules, standard broadcast applications may now be filed and stations may be licensed for various hours of operation which include—

(1) Specified hours which permits operation during the exact hours specified in the license;

(2) Sharing time, which permits operation during the hours shared with one or more other stations using the same channel;

(3) Daytime, which permits operation during the hours between average monthly local sunrise and sunset;

(4) Limited time which permits operation during daytime and until local sunset if located west of the dominant station on the channel, or if located east thereof, until sunset at the dominant station and, in addition, during nighttime hours if not in use by the dominant station or stations on the channel; and

(5) Unlimited time, which permits operation without a maximum limit as to time.

4. Prior to April 13, 1940, the rules and regulations for the licensing of broadcasting stations (sec. 84) which had first been pro-

[2] The Commission report and order announcing the decision found that: "The population which would gain service during these hours is vastly exceeded by the population which would lose the service of existing stations because of the additional interference which would result on all but a few of the 107 standard broadcast frequencies from the operation of daytime stations during the nondaytime hours (before sunrise and after sunset) contemplated by the proposal. The daytime stations so operating during nondaytime hours would generally serve only a very small fraction of the areas and populations which they serve during daytime hours, a fact which would sharply limit the gains in service which would result. As a result of the additional interference so created, clear-channel, unlimited time class II and class III stations would be limited in service so that in many instances they could not serve even all of the communities to which they are assigned. While a first nighttime primary service would be afforded to some population during these hours, and a first local service would be afforded to more than 900 communities in the Nation, extensive 'white areas,' in which the population would lose all nighttime primary service, would be created. On virtually all of the clear channels all secondary service would be destroyed. Because of this destruction of secondary service (the only service received by some 20 million persons in about one-half of the area in the United States) and vast impairment of primary service during the hours involved, service to rural areas would be lost * * *."

promulgated by the Federal Radio Commission [3] defined the term "daytime" as the period of time between 6 a.m. and local sunset. Thus the rules then provided that the broadcast day for daytime stations began at 6 a.m. However, during the winter months, this was considerably prior to local sunrise, causing rather serious interference due to nighttime propagation conditions prevailing, while during the summer months sunrise occurred considerably before 6 a.m. This rule was amended on April 13, 1940 (5 F.R. 1449), to specify local sunrise in place of 6 a.m. However, section 3.87 of the rules adopted June 10, 1940, contains provisions which permit program transmissions prior to local sunrise, beginning at 4 a.m., local standard time, by daytime stations, except certain class II stations, with their authorized daytime facilities where such operation does not cause undue interference. See *Music Broadcasting Company* v. *Federal Communications Commission*, 95 U.S. App. D.C. 12, 217 F. (2d) 339, 11 Pike & Fischer R.R. 2025 (1954); and *In re Music Broadcasting Company et al.*, 15 Pike & Fischer R.R. 547.

5. The differences in station interference between daytime and nighttime operation are well recognized, and comprehensive reference has been made thereto in the notice of inquiry. Briefly, and of greatest import here, skywave service and interfering signals are propagated over great distances respectively, at night on the clear and shared standard broadcast channels, as distinguished from the essential absence thereof during most daytime hours of the solar diurnal arc. This fundamental difference in natural radio conditions is an appropriate consideration in carrying out the provisions of the Communications Act which provide for efficient, fair, and equitable distribution of radio service.

6. The notice of inquiry stated with respect to the increasing number of daytime stations:

> The licensing of daytime stations has increased from 84 in 1946 to approximately 1,400 in 1958. Approximately 650 applications seeking daytime facilities are pending, ranging in power up to 50 kw. In addition, more than 350 applications for unlimited time operation are pending which propose, by use of directional antennas and reduced power, the avoidance of transmissions of interfering skywave signals during nondaytime hours. The filing of both kinds of applications is continuing at a substantial rate.

and:

> All parties are hereby placed on notice that the Commission in its deliberations on this matter will take into consideration the applications for new daytime and fulltime station.

The number of standard broadcast stations authorized as of March 1, 1959, listed by type of channel and hours of operation, is shown in the attached appendix II.

7. Substantial engineering data were filed showing the service gains and losses. Much of the data have been tabulated and are attached as appendix I.[4] It shows that, if all present daytime stations were

[3] The rules which had been issued by the Federal Radio Commission were continued in effect by sec. 604 of the Communications Act of 1934, as amended until modified, terminated, superseded, or repealed by the Commission or by operation of law.

[4] Data filed in other FCC proceedings, dockets Nos. 6741 and 12274, and in the standard broadcast station license files are also considered relevant and reliance has been placed thereon to the extent such data is either set forth herein or in the decision in docket No. 12274.

to extend their hours of operation from 6 a.m. to 6 p.m. there would be substantial losses of existing groundwave services, new white areas [5] would be created in the vicinity of communities which are now served by unlimited time stations on the same frequencies, the resulting service areas of the daytime stations would be meager, and skywave service would be lost. While the losses would be most severe in rural and small urban communities, a substantial number of regional stations would not even serve the entire community to which they are licensed. The effects of "6 to 6" operation do not differ appreciably, during the time segments involved, from the 5 a.m. to 7 p.m. operation considered in docket No. 12274.

8. It is shown by the data that the interference to the present service would not terminate at 6 o'clock except for areas in the Pacific standard time zone even though the interfering stations ceased their operation at 6 o'clock local standard time.[6] This results from the time zone changes whereby 6 o'clock in the central time zone is 7 o'clock eastern standard time; 6 o'clock in the mountain time zone is 8 o'clock eastern standard time and 7 o'clock central standard time; and 6 o'clock in the Pacific time zone is 9 o'clock eastern standard time, 8 o'clock central standard time, and 7 o'clock mountain standard time. Thus, a station operating until 6 o'clock in the Pacific standard time zone would transmit skywave interfering signals which would endure until 6 o'clock, 7 o'clock, 8 o'clock or 9 o'clock, local time, depending upon the location of the service areas affected. Considering the operation of interfering stations in each time zone, the duration of interference to existing service would thus extend from local sunset to 9 p.m. eastern time, 8 p.m. central time, 7 p.m. mountain time, and 6 p.m. Pacific time. The correlate of this sequence would occur during the presunrise morning hours, beginning at 3 a.m. Pacific time.

9. Data currently available are necessarily confined to interference resulting from the operation of existing stations. The prospective effects are necessarily somewhat speculative. The rate of increase of daytime stations and applications clearly shows a strong continuing demand and, in addition, the eventual lifting of the freeze will undoubtedly accelerate the filing of daytime applications. It thus appears, based on present licensing and reasonable expectancy of future development, that until 9 p.m. eastern standard time all skywave service would be entirely destroyed [7] and groundwave service severely limited on most of the 107 standard broadcast channels. (Only the six local channels would be unaffected.)

10. The views and opinions expressed in the proceedings are substantially similar to those expressed earlier in docket No. 12274.

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[5] The term nighttime "white areas" is used to describe those areas receiving only skywave service with no groundwave service from any station during nighttime hours.

[6] The transmission of skywave interfering signals from operations after local sunrise and before local sunset is considered in docket No. 8333, the daytime skywave proceeding.

[7] Skywave service attaches as an incident of the urban economic support of stations which are so protected from interference as to render broadcasting service over extensive areas by means of skywave signals, and is the only nighttime standard broadcast service available to 25,631,000 persons, in 1,727,000 square miles, who do not receive nighttime groundwave service from any station. This area comprises somewhat more than half the land area of the United States (excluding Alaska and Hawaii). The basic cause for the absence of groundwave service in these areas is the nighttime interstation interference which is encountered on the shared channels despite the following of engineering principles of allocation which include the use of directional antennas designed to minimize interference.

The Daytime Broadcasters Association, however, now urges "That the Commission—on an interim and experimental basis—authorize the operation of daytime only stations from 6 a.m. or local sunrise (whichever is earlier) to 6 p.m. or local sunset (whichever is later) for a period of 2 years." In support it is urged that the basic problem may in this manner be resolved "not by theoretical data but by the actual results." No reason appears, however, to question the accuracy of the physical and engineering data on which the Commission's rules are bottomed, and no further showing has been made to bolster the views expressed earlier that additional hours should be granted daytime stations on the basis of present need for local service despite the resulting interference.

11. Other parties commenting have made the point that the specified hours of operation now provided by section 3.23 of the rules are not delimited to the daytime or nighttime hours. Thus applicatcns filed under the existing rules may propose operation from 6 a.m. to 6 p.m. It is urged that the present rules are thus entirely adequate for the determination on a case-by-case basis of the merits of any application proposing operation during these hours. The Commission could in this manner appropriately evaluate the extent of the service proposed and the interference which may be caused. This, it is asserted, is necessary in any event in view of the fact that the merits of the present daytime operations have been evaluated solely under daytime transmission conditions with no other evaluation to meet the statutory tests for licensing.[8]

12. The notice of inquiry stated:

> In the pleadings and comments filed heretofore in docket No. 12274, DBA and other advocates of extended hours for daytime stations have asserted that there is a large unsatisfied need for local service during presunrise and postsunset hours. Of particular significance, states DBA, is the fact that in the United States 913 communities, with a total population of more than 7,300,000, have available to them no locally licensed radio outlet other than daytime-only stations.

13. With further reference to the communities referred to in the notice of inquiry, one party filing comments supplied additional data secured through a more detailed study of the records publicly available which show that the problem concerning adequacy of nighttime radio service to the people residing in these communities is not so severe as might appear from a more cursory examination. The detailed data show that a count of the communities listed totals 912; that 357, or 39.1 percent, with a population total of 1,761,622 do not receive nighttime groundwave service from any stations; that 218, or 23.9 percent, with a population total of 1,684,026 receive nighttime groundwave service from one station; that 337, or 37 percent, with a population total of 5,218,854 receive nighttime groundwave service from two or more stations; and that many of the communities are nearby suburbs of well-served metropolitan areas.

14. As there is no practicable basis for increasing the number of standard broadcast channels, the only way in which more stations could be accommodated to provide additional services during the ad-

[8] It would be necessary that proposals for nighttime operation be evaluated under the rules and standards applicable for determination of nighttime service and interference.

ditional hours would be to increase the number of stations on these channels or by extending the hours of existing daytime stations. Under the Communications Act, however, and in principle it is clear that such should not be done at the expense of the broadcasting services now being effectively rendered during these hours, which would result in a severe loss of broadcasting service to the public. This is not to say, of course, that local nighttime operation might not be licensed in various of these communities were applications to be filed proposing operation which meets the appropriate criteria with reference to interference and other considerations whereby the Commission might find that the nighttime operations proposed could serve the public interest or could better serve the public interest than would other pending proposals.[9]

15. The notice of inquiry posed the consideration:

> Would it be feasible for daytime stations, if operating after sunset, to reduce power sufficiently at sunset and before sunrise to limit interference to other stations to the daytime level? If so, how much service would be provided with such reduced radiation?

The data, however, show that in the main the resulting interference would preclude the affording of a satisfactory measure of service by daytime stations if operating after sunset even with no reduction in power. Any substantial reduction in power during these hours designed to reduce the degree of the interference which would be caused to the groundwave service of unlimited time stations would further diminish the coverage of the daytime stations. The greater susceptibility of skywave service to interference and the great distances to which such service extends in the absence of interference makes exceedingly problematical any benefits which might be secured to skywave service through power reduction by the interfering stations. Thus it appears that power reduction poses only an extremely limited potential for alleviating the interference problem. Moreover, under the existing rules, classes II, III, and IV stations may be licensed to operate with power as low as 0.25 kw., 0.5 kw., and 0.1 kw., respectively, and, with the exception of the class IV stations, these stations may make use of directional antennas for the reduction of interference by limiting radiation in certain directions, although permitting full radiation in other directions in order to provide maximum service. Thus the provisions of the present rules appear adequate in this respect.

16. With reference to the proposal set out in paragraph 10 above, that experimental operation should be authorized during the time segments here considered, for a period of 2 years, and the view expressed in support thereof that an asserted deficiency in the Commission's licensing of hours of operation of standard broadcast stations would thereby be corrected; we believe it appropriate to observe that somewhat similar arguments of deficiency in the applicability of the Com-

[9] It may be pointed out also that any complaints that existing full-time stations have failed to devote a reasonable amount of broadcast time to meeting the needs of the areas and communities which now receive broadcast service from these licensees will be carefully considered by the Commission in connection with renewal proceedings relating to such stations. Under the Communications Act of 1934, as amended, standard broadcast stations are licensed for a term of 3 years and renewal of such licenses may be granted from time to time for a term not to exceed 3 years. In each instance the Commission grants the license only upon finding that the operation meets the statutory standard of public interest, convenience, or necessity.

mission's rules and engineering standards for the licensing of stations [10] have been made by some parties in other proceedings with reference both to the hours during the sun's nocturnal arc with which this proceeding is concerned and to other time segments of the broadcast day, and these arguments have been or will be ruled upon in those proceedings. Finally, we believe it appropriate to observe, in view of the broad and widespread nature of the suggestion which has been made for experimental operation, that in those cases where experimentation may be warranted and desirable, for reasons not present here, the experimentation should be appropriately limited in scope and duration and so pointed in purpose as to secure the desired data with a minimum of disruption of the existing radio services which are otherwise in the public interest. We believe the general and universal basis for experimental operation suggested here fails also to meet that standard.

17. In the issues pointing out a number of problems involved, in the notice of inquiry, several issues were designed to solicit meaningful consideration in certain areas which would be brought into focus only in the event that it should otherwise appear some extended hours of operation would be meritorious. Examples of these are the effects upon the conelrad operation, upon the development of FM broadcasting, and upon the operations of stations in other North American countries. These and other similar issues require no resolution in view of our decision herein.

18. The notice of inquiry posed for consideration:

> (*a*) What effect would the new services gained have on reception of needed and valuable programs by persons who are advantaged by such reception, including emergency and weather information, farm information, national and local news, programs and announcements concerning local affairs and local organizations? [9]
>
> (*b*) What effect would the limitation of service through destructive interference have upon access to events of national and regional interest and to programs of a type which cannot be originated by local communities, and other needed and valuable transmissions now available under the existing allocation rules?

[9] We expressed the view in the report and order in docket No. 12274 (par. 49) that the needs and advantages relating to programing were common to all radio service, and that "any change in allocation rules which results in degradation of overall radio service results in less meeting of the various needs and provides for less of the advantages than at present." We adhere to that view on the basis of the record made in that proceeding. But we wish to permit the presentation of any special facts as to the value of the programing of certain stations or kinds of stations which may be available; and accordingly we are including this among the issues herein. Data supplied along this line, as in other connections, should be specific and factual, rather than general and conclusionary.

19. Upon a careful review of the comments which have been filed, and a review of our decision in docket No. 12274, we conclude that the losses of standard broadcast radio service, both groundwave and skywave in the various areas affected, which would result from an extension of the hours of operation of stations licensed for daytime

[10] It is the intent and purpose of the rules and standards to provide, with due consideration of all the factors involved and of their complexity, criteria which can be generally applied under the Communications Act to proposed station assignments to determine their acceptability or nonacceptability for licensing in terms of acceptable or nonacceptable interference. As in the case of many other fields in which statistical methods are employed, the applicable interference criteria have resulted from a statistical analysis of a large number of recorded field intensity measurements accumulated over substantial periods of time. These criteria have been the subject of review from time to time to assure consonance with all scientific principles and all other known factors which may have a bearing on the licensing of broadcast stations.

operation must be determinative herein. We are unable to find an expression of any local need which is impossible of substantial fulfillment under existing rules for station licensing [11] and which is so great or so pressing as to warrant widespread disruption of the existing radio service now enjoyed thereunder and relied upon daily by millions of citizens. Particularly, would it be undesirable and unwarranted to permit such disruption in those instances where the result as shown by the data would simply be the taking of regular service from rural farm areas and from small urban communities, which need radio vitally, and giving more stations—serving less area—to city and principal urban areas which are already relatively well supplied not only with standard broadcast radio programs but with other facilities for relaxation, intellectual stimulus, information, and recreation. Moreover, this conclusion is strongly reinforced by a comparison of the 1,761,622 persons in 357 communities, now receiving only skywave service, who would gain in lieu thereof a local groundwave service, with the 25,631,000 persons in 1,727,000 square miles, now receiving skywave service, who would lose entirely the standard broadcast radio service now available to them.

20. On the basis of the data now available we find that there is no warrant for inaugurating rulemaking looking toward extended hours for daytime stations on a general or universal basis, and we conclude that the inquiry herein *Should be and it is hereby terminated.*

[11] We here consider existing stations and prospective licensing of new stations.

APPENDIX I

Extent of present groundwave service compared to potential gains and losses

Location; and month [1]	Station; sunrise-sunset time [2]	Time; and mode of change [3] [4]	Present service			Resulting gain or loss of service					Coverage of urban community [7]; notes
			Population	Area (miles²)	Mv./m.[5]	Population	Percent [6]	Area (miles²)	Percent [6]	Mv./m.[5]	
ALABAMA											
Mobile	WKAB (1 kw., D, 840 kc. (clear 1-A)).										CST.
January–December		Day	247,375	1,952	0.5						
December	6:45–5:00	5:00 p.m. (1)				184,411	74.5	60	3	11.2	
		6:00 p.m. (1)				142,509	57.6	32	1.6	27.8	No.
Montgomery	WCOV (1 kw., N/10, D, DA-2, U, 1170 kc. (clear 1-B)).										CST.
January–December		Day	251,454	4,505	.5						
December	6:45–4:45	6:00 p.m. (1)	135,525	970	1.85	*7,905	5.8	*299	30.9	2.54	
		(2)								40	No.
		7:00 p.m. (2)				From MST stations.[8]					
		8:00 p.m. (2)				From PST stations.[8]					
CALIFORNIA											
Avalon	KBIG (10 kw., D, 740 kc. (Canada clear 1-A)).										Near Los Angeles.
January–December		Day	3,192,615	10,805	.5						PST.
December	6:45–4:45	4:45 p.m. (1)				201,116	.63	217	2	19.7	
		5:00 p.m. (1)				1,730	.05	53	.5	29.1	
		6:00 p.m. (1)				1,680	.05	25	.2	79.3	No.
Bakersfield	KERN (1 kw., U, 1410 kc. (regional)).										PST.
January–December		Day	130,300	4,300	.5						
December	7:00–4:45	6:00 p.m. (2)	143,970	1,303	1.9	*40,349	28	*1,089	84	10.9	
Bakersfield	KPMC (10 kw., U, DA-1, 1560 kc. (clear 1-B)).										PST.
January–December		Day	180,449	10,240	.1						
December	7:00–4:45	6:00 p.m. (1)				*891,000	100	*171,000	100	2.6	Skywave.
Fresno	KMJ (5 kw., U, 580 kc. (regional)).										PST.
January–December		Day	1,324,700	42,800	.5						
December	7:00–4:45	4:45 p.m. (1)	1,583,840	32,080	1.04	*214,300	13.5	*2,770	8.6	1.3	
		(2)				*962,550	60.7	*13,290	58.6	3.5	
		5:00 p.m. (1)	1,227,530	28,290	1.36	*109,820	8.9	*3,160	11.2	1.57	
		(2)				*721,900	58.8	*18,310	64.7		
		6:00 p.m. (1)	1,020,670	21,810	1.88	*279,400	27.4	*5,740	26.3	2.82	
		(2)				*279,400	27.4	*5,740	26.3	2.82	

See page 77 for footnotes.

Extent of present groundwave service compared to potential gains and losses—Continued

Location; and month [1]	Station; sunrise-sunset time [2]	Time; and mode of change [3 4]	Present service			Resulting gain or loss of service					Coverage of urban community [7]; notes
			Population	Area (miles²)	Mv./m.[5]	Population	Percent [6]	Area (miles²)	Percent [6]	Mv./m.[5]	
CALIFORNIA—con.											
Los Angeles	KFI (50 kw., U, 640 kc. (clear 1-A)).										PST.
January–December		Day	3,995,395	35,953	0.1						
March	6:00–6:00	6:00 a.m. (1)				*146,333	2.67	*14,896	42.3	.98	0.5 gw.
		6:30 a.m. (1)				*94,722	1.7	*8,976	25.5	.68	0.5 gw.
December	6:45–4:45	6:00 a.m. (1)				*183,425	3.35	*117,445	49.5	1.21	0.5 gw.
		7:00 a.m. (1)				*134,642	2.46	*13,741	39	.875	0.5 gw.
		7:30 a.m. (1)				*25,631	.47	*3,894	11.1	.559	0.5 gw.
		3:00–6:00 a.m. (1)				Loss of all skywave service.[8]					
Modesto	KBEE (1 kw., U, DA-2, 970 kc. (regional)).										PST.
January–December		Day	282,677	5,808	.5						
December	7:15–4:45	6:00 p.m. (2)	85,253	413	10.18	*23,653	28	*104	25	15.1	
Sacramento	KFBK (50 kw., U, DA-1, 1530 kc. (clear 1-B)).										PST.
January–December		Day	1,018,000	15,000	.5	NOTE.—Would completely destroy the skywave service * * * would limit groundwave service to the 2.5-mv./m. contour * * * commencing 3¼ hours before sunrise at Sacramento.					
San Francisco	KCBS (50 kw., U, DA-2, 740 kc. (Canada clear 1-A)).										PST.
January–December		Day	2,558,657	33,620	.1						
December	7:15–4:45	4:45 p.m. (1)	3,361,120	18,636	1.25	*168,613	5	*7,037	38	2.60	
		5:00 p.m. (1)	3,321,969	16,767	1.47	*212,747	6.4	*6,788	40	3.46	
San Francisco	KNBC (50 kw., U, 680 kc. (clear 1-B)).	6:00 p.m. (1)	3,268,035	14,588	1.90	*490,566	15	*8,563	59	7.41	
December	7:15–4:45	4:00 p.m.				*83,000		*19,500			
		5:00 p.m.				*437,000		*67,700			
		6:00 p.m.				*618,000		*80,400			
						Loss of all skywave service.[8]					
Nearby counties affected by loss of KCBS service (more distant counties are not listed): California: Napa, Sacramento, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma, Stanislaus.											
Nearby counties affected by loss of KNBC service (other more distant counties not listed): California: Amador, Butte, Calaveras, Colusa, Eldorado, Fresno, Lake, Madera, Mariposa, Mendocino, Merced, Monterey, Nevada, Placer, San Benito, Tuolumne, Yuba.											
COLORADO											
Denver	KOA (50 kw., U, 850 kc. (clear 1-B)).										MST.
January–December		Day		205,000	.1						
December	7:15–4:30	5:30 p.m. (2)						*184,500	90	3.8	
		6:30 p.m. (2)									
		7:00 p.m. (2)				Loss of all skywave service.[8]					

CONNECTICUT											
New Britain	WKNB (1 kw., D, 840 kc. (clear 1-A)).										EST.
January-December		Day	647, 414	2, 200	.5						
December	7:15-4:15	4:15 p.m. (1)				573, 301	88.5	706	30.8	1.81	
		4:30 p.m. (1)				443, 041	68.4	394	17.2	2.86	
		5:00 p.m. (1)				230, 160	35.5	191	8.3	6.6	
		6:00 p.m. (1)				97, 426	15	61	2.6	17.1	
DELAWARE											
Wilmington	WDEL (5 kw, U, DA-2, 1150 kc. (regional)).										EST.
December	7:15-4:45	6:00 p.m. (1)	332, 869	672	2.92	*135, 459	40.7	*548	81.5	12.39	No.
		7:00 p.m. (2)					From CST stations.[5]				
		8:00 p.m. (2)					From MST stations.[5]				
		9:00 p.m. (2)					From PST stations.[5]				
Nearby counties affected by loss of WDEL service (others more distant not listed): Delaware: New Castle. New Jersey: Salem. Pennsylvania: Delaware.											
DISTRICT OF COLUMBIA	WWDC (5 kw., U, DA-2, 1260 kc. (regional)).										EST.
January-December		Day			.5						
December	7:15-4:45	5:00 p.m. (1)	900, 000	123	7.10	*105, 000	12	*25	21	9.32	
		(2)				*340, 000	38	*25	20	13.7	
		6:00 p.m. (1)	1, 152, 000	295	2.58	*667, 000	58	*241	82	17.12	
		(2)				*932, 000	81	*245	83	26.88	No.
		7:00 p.m. (1)	1, 155, 000	298	2.56	*287, 000	25	*186	62	7.90	
		(2)				*577, 000	50	*234	79	14.60	
		8:00 p.m. (2)					From MST stations.[5]				
		9:00 p.m. (2)					From PST stations.[5]				
	WTOP (50 kw., U, DA-2, 1500 kc. (clear 1-B)).										EST.
January-December		Day			.1						
December	7:15-4:45	6:00 p.m. (1)	0.5 gw. Skywave.					* [1] 3, 500			
		7:00 p.m. (1)				*2, 312, 000		* [1] 50, 900			
		8:00 p.m. (2)					From MST stations.[5]				
		9:00 p.m. (2)					From PST stations.[5]				
							Loss of all skywave service.[5]				
	WRC (kw., U, DA-N, 980 kc. (regional)).										EST.
December	7:15-4:45	5:00 p.m. (1)				*52, 600		*270			No.
		6:00 p.m. (1)				*191, 400		*630			
		7:00 p.m. (2)					From CST stations.[5]				
		8:00 p.m. (2)					From MST stations.[5]				
		9:00 p.m. (2)					From PST stations.[5]				
Nearby counties affected by loss of WRC service (others more distant not listed): Maryland: Montgomery, Prince Georges. Virginia: Arlington, Fairfax.											

See page 77 for footnotes.

Extent of present groundwave service compared to potential gains and losses—Continued

Location; and month [1]	Station; sunrise-sunset time [2]	Time; and mode of change [2 4]	Present service			Resulting gain or loss of service					Coverage of urban community [7]; notes
			Population	Area (miles [2])	Mv./m. [3]	Population	Percent [6]	Area (miles [2])	Percent [6]	Mv./m. [3]	
GEORGIA											
Atlanta	WSB (50 kw., U, 750 kc. (clear 1-A)).										EST.
January-December		Day	3,194,002	68,300	0.1						
December	7:30-5:30	4:45 p.m. (1)				*120,630	8.83	*3,394	15.57	0.57	0.5 gw.
		5:00 p.m. (1)				*355,023	25.97	*10,680	49	.89	0.5 gw.
		6:00 p.m. (1)				*744,920	54.5	*19,243	88.29	3.59	0.5 gw.
		7:00 p.m. (1)				*417,900	30.57	*12,236	56.14	1.01	0.5 gw.
		8:00 p.m. (1)				From MST stations.[5]					
		9:00 p.m. (1)				From PST stations.[5]					
						Loss of all skywave service.[5]					

NOTE.—The above excludes consideration of WHEB, Portsmouth, N.H.; KMMJ, Grand Island, Nebr.; and KXL, Portland, Oreg.; which operate limited time on 750 kc.

Nearby counties affected by loss of WSB service (other more distant counties are not listed):
Georgia: Bartow, Cherokee, Douglas, Fayette, Forsyth, Givinett, Henry, Newton, Paulding.

ILLINOIS											
Centralia	WCNT (1 kw., D, 1210 kc. (clear 1-A)).										CST.
January-December		Day	189,825	5,720	.5						
December	7:00-4:30	4:45 p.m. (1)				27,095	14.2	171	3	12.9	
		5:00 p.m. (1)				24,600	13	132	2.3	17.2	
		6:00 p.m. (1)				21,393	10.7	99	1.7	21.8	
Chicago	WAIT (5 kw., SH, 820 kc. (clear 1-A)).										CST.
	WCBD (5 kw., SH, 820 kc. (clear 1-A)).										
January-December		Day	5,724,707	16,778	.5						
December	7:15-4:45	4:15 p.m. (1)				4,933,763	86.1	2,953	17.6	3.6	
		5:00 p.m. (1)				3,315,905		1,070	6.38	10.7	
		6:00 p.m. (1)				1,359,891	23.8	490	2.92	2.1	No.
Chicago	WLS (50 kw., U, 890 kc. (clear 1-A)).										CST.
March	6:00-6:00					No data filed; see December.					
December	7:15-4:15	4:00 p.m. (1)			.65						
		5:00 p.m. (1)			1					2.25	
		6:00 p.m. (1)							*77	9.45	0.5 gw.
		7:00 p.m. (1)				From MST stations.[5]					
		8:00 p.m. (1)				From PST stations.[5]					
						*1,500,000	100				

						Loss of all skywave service.[5]					
Effingham	WCRA (250 w., D, 1090 kc. (clear 1–B)).										
January–December	7:00–4:30	6:00 p.m. (1)	113,188	3,990	.5	9,071	8	95	2.4	167	Approximate; yes.
Peoria	WMBD (5 kw., U, DA–2, 1470 kc. (regional)).										CST.
December	7:15–4:30	Night (1)	243,230	1,010	3.2	*70,010	20	*800	79	14.7	Yes.
		7:00 p.m. (2)				From MST stations.[5]					
		8:00 p.m. (2)				From PST stations.[5]					
Mattoon	WLBH (250 w., D, 1170 kc. (clear 1–B)).										CST.
January–December		Day	111,659	2,870	.5						
December	7:00–4:30	6:00 p.m. (1)				40,030	36	490	17	2.68	
		(2)								64	No.

Nearby counties affected by loss of WMBD service (more distant counties are not listed):
Illinois: Peoria, Tazewell, Woodford.

INDIANA

Evansville	WIKY (250 w., D, 820 kc. (clear 1–A)).										CST.
January–December		Day	382,451	6,164	.5						
December	7:00–4:30	4:30 p.m. (1)				224,766	58.7	301	4.8	6.8	
		5:00 p.m. (1)				143,884	37.6	105	1.7	13.7	
		6:00 p.m. (1)				87,748	22.9	28	.45	30.1	
Indianapolis	WFBM (5 kw., U, DA–N, 1260 kc. (regional)).										CST.
March	6:00–5:45					Data not filed; see December.					
December	7:00–4:15	4:00 p.m. (1)			3.8					3.3	
		5:00 p.m. (1)			5.6					10.6	
		6:00 p.m. (1)			1.7					13.4	
		7:00 p.m. (2)				From MST stations.[5]					
		8:00 p.m. (2)				From PST stations.[5]					
Indianapolis	WISH (1 kw., N/5, D, U, DA–N, 1310 kc. (regional)).										
March	6:00–5:45					Data not filed; see December.					
December	7:00–4:15	4:15 p.m. (1)	492,750	372	7.7	*71,852	14.6	*175	47.1	13.8	No.
		5:00 p.m. (1)	511,795	452	6.4	*311,426	60.8	*360	79.7	25.6	
		6:00 p.m. (1)	527,446	588	6	*154,389	29.5	*426	72.6	16	
		7:00 p.m. (2)				From MST stations.[5]					
		8:00 p.m. (2)				From PST stations.[5]					

IOWA

Davenport	KSTT (1 kw., U, DA–2, 1170 kc. (clear 1–B)).										CST.
January–December		Day	387,872	9,169	.5						
December	7:15–4:30	6:00 p.m. (1)	226,357	890	1.55	*42,608	19	*527	59.2	3.94	
		(2)								52	
		7:00 p.m. (2)				From MST stations.[5]					
		8:00 p.m. (2)				From PST stations.[5]					

See page 77 for footnotes.

Extent of present groundwave service compared to potential gains and losses—Continued

Location; and month [1]	Station; sunrise-sunset time [2]	Time; and mode of change [3 4]	Present service			Resulting gain or loss of service					Coverage of urban community [7]; notes
			Population	Area (miles [2])	Mv./m.[5]	Population	Percent [6]	Area (miles [2])	Percent [6]	Mv./m.[5]	
IOWA—continued											
Des Moines	WHO (50 kw., U, 1040 kc. (clear 1-A)).										CST.
January–December		Day			0.1						
December	7:30–4:45	5:15 p.m. (1)				*1,014,032	41.2	*42,970	55.1	1.5	0.5 gw.
		6:00 p.m. (1)				*1,437,181	58.5	*57,213	73.4	2.90	0.5 gw.
		7:00 p.m. (1)				From MST stations.[3]					
		8:00 p.m. (1)				From PST stations.[3]					
						Loss of all skywave service.[3]					
Waterloo	KNWS (1 kw., D, 1000 kc. (clear 1-B)).										CST.
January–December		Day	338,274	9,025	.5						
December	7:30–4:30	6:00 p.m. (1)				5,885	1.7	25	.28	54.6	Approximate; no.
Nearby counties affected by loss of WHO service (other more distant counties not listed): Iowa: Adams, Audubon, Benton, Black Hawk, Butler, Calhoun, Carroll, Cass, Davis, Franklin, Humboldt, Jefferson, Johnson, Ringgold, Washington, Wright. Missouri: Mercer, Putnam.											
KANSAS											
Topeka	WIBW (5 kw., S, DA-N, 580 kc. (regional)).										CST.
December	7:30–5:00	6:00 p.m. (1)	574,707	21,198	3.07	*443,790	77	*19,218	91	14.7	Approximate.
Nearby counties affected by loss of WIBW service (others more distant not listed): Kansas: Anderson, Coffey, Douglas, Franklin, Jackson, Jefferson, Osage, Wabaunsee.											
KENTUCKY											
Louisville	WHAS (50 kw., U, 840 kc. (clear 1-A)).										CST.
January–December		Day	9,200,139	153,744	.1						
December	7:00–4:30	3:15 p.m. (1)				*2,183,552	23.7	*43,440	28.2	.19	
		3:30 p.m. (1)						*77,856	50.6	.34	
		4:00 p.m. (1)				*5,583,498	60.6	*111,104	72.2	.74	
		5:00 p.m. (1)				*2,060,651	49.5	*41,470	71.8	2.7	0.5 gw.
		6:00 p.m. (1)				*2,134,645		*42,348	73.3	3.7	0.5 gw.
		7:00 p.m. (1)				From MST stations.[3]					
		8:00 p.m. (1)				From PST stations.[3]					
						Loss of all skywave service.[3]					

Nearby counties affected by loss of WHAS service (other more distant counties are not listed):
Kentucky: Boone, Bourbon, Bracken, Campbell, Casey, Clark, Garrard, Hardin, Harrison, Kenton, Larue, Lincoln, Madison, Marion, Meade, Pendleton, Robertson.
Indiana: Crawford, Dearborn, Jackson, Jennings, Ripley, Washington.

LOUISIANA											
New Orleans	WWL (50 kw., U, 870 kc. (clear 1-A)).										CST.
January-December		Day			0.1						
December	6:45-5:00	6:00 p.m. (1)	32,813,160	1,277,000		*31,312,748	96	*1,276,724	99.9	1	Groundwave and skywave.
		7:00 p.m. (1)				*31,014,589	95	*1,276,645	99.9	.59	
		8:00 p.m. (1)				*31,014,589	95	*1,276,645	99.9	.59	
						Loss of all skywave service.[5]					
MARYLAND											
Baltimore	WBAL (50 kw., U, DA-N, 1090 kc. (clear 1-B)).										EST.
January-December		Day			.1						
December	7:15-4:45	6:00 p.m. (1)	Groundwave.			*909,501	41.7	*8,910	91.3	7.15	Approximate.
		(1)	Skywave.			*6,258,306	100	*138,273	100	7.15	Rural.
		7:00 p.m. (2)				From CST stations.[5]					
		8:00 p.m. (2)				From MST stations.[5]					
		9:00 p.m. (2)				From PST stations.[5]					
						Loss of all skywave service.[5]					
Baltimore	WBMD (1 kw., D, 750 kc. (clear 1-A)).										EST.
January-December		Day	1,409,792	5,558	.5						
December	7:15-4:45	4:45 p.m. (1)				1,062,031	75	965	17.36	3.3	
		5:00 p.m. (1)				1,009,430	71.6	529	9.2	5.18	
		6:00 p.m. (1)				749,208	53.1	109	1.96	19.6	
Baltimore	WFBR (5 kw., U, DA-1, 1300 kc. (region)).										EST.
January-December		Day	1,170,587	2,325	.5						
December	7:15-4:45	(1)	1,345,390	1,226	1.8	*187,723	14	*961	78	13.3	1 hour after sunset.
		(2)				*420,623	31	*1064	87	16.9	No.
		6:00 p.m. (2)				From EST stations.[5]					
		7:00 p.m. (2)				From CST stations.[5]					
		8:00 p.m. (2)				From MST stations.[5]					
		9:00 p.m. (2)				From PST stations.[5]					
Bethesda	WUST (250 w., D, 1120 kc. (clear 1-A)).										Near Washington, D.C.
January-December		Day	826,419	716	.5						EST.
December	7:15-4:45	4:45 p.m. (1)				258,904	31	88	12	4.06	
		5:00 p.m. (1)				135,124	16	59	8.2	6	
		6:00 p.m. (1)				28,867	3.5	16	2.2	18.9	No.

See page 77 for footnotes.

Extent of present groundwave service compared to potential gains and losses—Continued

Location; and month [1]	Station; sunrise-sunset time [2]	Time; and mode of change [2 4]	Present service			Resulting gain or loss of service					Coverage of urban community [7]; notes
			Population	Area (miles [2])	Mv./m.[3]	Population	Percent [5]	Area (miles [2])	Percent [5]	Mv./m.[3]	
MARYLAND—continued											
Bethesda—Continued											
Nearby counties affected by loss of WBAL service (other more distant counties not listed): Maryland: Anne Arundel, Baltimore, Calvert, Caroline, Carroll, Cecil, Dorchester, Harford, Howard, Kent, Prince Georges, Queen Annes, Talbot, Wicomico. Delaware: Kent, New Castle, Sussex. New Jersey: Cumberland, Salem. Pennsylvania: Chester, Lancaster, York. NOTE.—Loss of WBAL service would cause 29 cities and towns to become "white areas." Nearby counties affected by loss of WFBR service (other more distant counties not listed): Maryland: Anne Arundel, Baltimore, Harford, Howard, Kent, Queen Annes.											
MASSACHUSETTS											
Boston	WBZ (50 kw., U, DA-1, (Clear 1-A)).										EST.
January–December			7,981,000		0.1						
March	6:00–5:45	7:00 p.m. (1)				*480,000				0.22	From CST stations.
December		6:00 p.m. (1)				*894,000				.49	
		7:00 p.m. (1)				*1,435,000				1.87	From CST stations.
		8:00 p.m. (1)				From MST stations.[8]					
		9:00 p.m. (1)				From PST stations.[8]					
						Loss of all skywave service.[6]					
Boston	WEZE (5 kw., U, DA-N, 1260 kc. (regional)).										EST.
January–December		Day			.5						
March	6:00–5:45					Data not filed; see December.					
December	7:00–4:15	6:00 p.m. (1)	2,288,950	844	1.01	*1,544,760	68	*782	93	14.6	
		(2)				*1,826,190	80	*704	94	18.1	
		7:00 p.m. (1)	2,294,280	702	1.27	*283,610	13	*336	48	2.74	
		(2)				*722,340	32	*518	74	5.8	
		8:00 p.m. (2)				From CST stations.[8]					
		9:00 p.m. (2)				From PST stations.[8]					
Boston	WILD (1 kw., D, 1090 kc. (clear 1-B)).										
January–December		Day	1,865,111	1,345	.5						
December	7:00–4:15	6:00 p.m. (1)				98,425	5.3	7	.53	66	Approximate; No.

MICHIGAN												
Dearborn	WKMH (5 kw., U, DA-2, 1310 kc. (regional)).											EST.
January–December		Day			.5							
December	8:00–5:00	6:00 p.m. (1)	1,249,836	308	8.9	*808,416	65	*268	67	22.2		No.
		(2)				*685,049	55	*221	56	24.9		
Detroit	WJR (50 kw., U, 760 kc. (clear 1-A)).											EST.
January–December		Day			.1							
December	8:00–5:00	5:00 p.m. (1)				*960,647	10.6	*13,834	25.47	1.1		0.5 gw.
		6:00 p.m. (1)				*2,739,937	30.3	*36,645	67.3	3.9		0.5 gw.
		7:00 p.m. (1)				From CST stations.[5]						
		8:00 p.m. (1)				From MST stations.[5]						
		9:00 p.m. (1)				From PST stations.[5]						
						Loss of all skywave service.[5]						
Detroit	WWJ (5 kw., U, DA-N, 950 kc. (regional)).											EST.
January–December		Day			.5							
		Night			2.76						13.5	
Muskegon	WMUS (1 kw., D, 1090 kc. (clear 1-B)).											
January–December		Day	141,540	985	.5							
December	8:15–5:15	6:00 p.m. (1)				*56,228	40	77	7.8	11		Approximate; no.
Saginaw	WKNX (1 kw., D, 1210 kc. (clear 1-A)).											EST.
January–December		Day	460,045	5,260	.5							
December	8:00–5:00	5:00 p.m. (1)				113,815	25	121	2.3	18		No.
		6:00 p.m. (1)				102,658	22	45	.86	33.2		

Nearby counties affected by loss of WJR service (other more distant counties are not listed):
Michigan: Genesee, Hillsdale, Ingham, Jackson, Lapeer, Sanilac, Shiawassee.
Ohio: Ashtabula, Crawford, Defiance, Hancock, Huron, Lorain, Putnam, Seneca, Williams.

MISSOURI												
St. Louis	KMOX (50 kw., U, 1120 kc. (clear 1-A)).											CST.
January–December		Day	3,859,917	75,144	.1							
March	6:15–6:00	5:15 p.m. (1)	2,724,828	34,318		*1,135,089	29	*40,826	54	.52		Yes.
		6:00 p.m. (1)	2,259,262	16,822		*1,600,655	41	*58,322	78	1.45		
December	7:15–4:45	3:45 p.m. (1)	2,870,166	39,765		*989,751	26	*35,379	47	.39		
		4:00 p.m. (1)	2,691,988	32,390		*1,167,729	30	*42,754	57	.58		
		5:00 p.m. (1)	2,126,322	13,086		*1,733,595	45	*62,058	83	2.05		Rec. 0.1 mv./m.
						*625,380	23	*21,980	63	2.05		Rec. 0.5 mv./m.
		6:00 p.m. (1)	1,988,269	9,592		*1,871,658	48	*65,552	87	3.07		Rec. 0.1 mv./m.
						*763,443	28	*25,474	73	3.07		Rec. 0.5 mv./m.
		7:00 p.m. (1)				From MST stations.[5]						
		8:00 p.m. (1)				From PST stations.[5]						
						Loss of all skywave service.[5]						

Extent of present groundwave service compared to potential gains and losses—Continued

Location; and month [1]	Station; sunrise-sunset time [2]	Time; and mode of change [3 4]	Present service			Resulting gain or loss of service					Coverage of urban community [7]; notes
			Population	Area (miles [2])	Mv./m.[5]	Population	Percent [6]	Area (miles [2])	Percent [6]	Mv./m.[5]	
MISSOURI—continued											
St. Louis—Continued											
Nearby counties affected by loss of KMOX service (more distant counties are not listed): Missouri: Franklin, Lincoln, Perry, St. Francois, Warren, Washington. Illinois: Clay, Coles, Cumberland, Jackson, Jasper, Jefferson, Macon, Morgan, Moultrie, Perry, Pike, Sagamon, Scott, Wayne.											
NEBRASKA											
Omaha	KFAB (50 kw., U, DA-N, 1110 kc. (clear 1-B)).										
December	7:45-5:00	9:00 p.m. (1)				From PST stations.[8] Loss of all skywave service.[9]					CST.
Omaha	KOWH (0.5 kw., D, 660 kc. (clear 1-A)).										CST.
January-December		Day	1,068,000	30,800	0.5						
December	7:45-5:00	5:00 p.m. (1)				390,000	37	2,040	6.6		No.
		6:00 p.m. (1)				345,000	32	790	2.6		
Omaha	WOW (5 kw., U, 590 kc. (regional)).										CST.
January-December		Day			.5						
December	7:45-5:00	6:00 p.m. (1)								6.1	
NEVADA											
Reno	KOH (1 kw., N/5, D, DA-N, U, 630 kc. (regional)).										
January-December		Day			.5						
December	7:15-4:30	6:00 p.m. (2)	91,610	3,260	2.11	*41,970	46	2,050	63	12.36	
NEW YORK											
Buffalo	WGR (5 kw., U, DA-N, 550 kc. (regional)).										EST.
January-December					.5						
December	7:45-4:45	6:00 p.m. (1)	1,119,560	2,380	2.36	*102,700	9	*1,320	55	7.07	
		(2)				*186,060	17	*1,500	63	12.9	No.
		7:00 p.m. (2)				From CST stations.[9]					
		8:00 p.m. (2)				From MST stations.[9]					
		9:00 p.m. (2)				From PST stations.[8]					
Buffalo	WWOL (1 kw., D, 1120 kc. (clear 1-A)).										EST.
January-December		Day	964,485	3,192	.5						

December	7:00-4:45	4:45 p.m. (1)				800,433	83	638	20	3.63		
		5:00 p.m. (1)				756,610	78	405	13	5.4		
		6:00 p.m. (1)				392,962	41	125	4	19.1		
New York	WQXR (50 kw., U, DA-1, 1560 kc. (clear 1-B)).										No.	EST.
January-December		Day			.1							
December	7:15-4:30	6:00 p.m. (1)				*5,190,000						
		7:00 p.m. (1)				*5,190,000						
		8:00 p.m. (2)										
		9:00 p.m. (2)										
		From MST stations.[3]										
		From PST stations.[3]										
		Loss of all skywave service.[3]										
New York	WRCA (50 kw., U, 660 kc. (clear 1-A)).											EST.
January-December		Day			.1							
December		5:15 p.m. (1)								2.2		
		6:00 p.m. (1)				*5,866,000		47,700		4.75		
		7:00 p.m. (1)				*2,445,000		34,700		.68		
		8:00 p.m. (1)										
		9:00 p.m. (1)										
		From MST stations.[3]										
		From PST stations.[3]										
		Loss of all skywaves service.[3]										

Nearby counties affected by loss of WRCA service (other more distant counties not listed):
New York: Rockland, Westchester.
New Jersey: Hunterdon, Morris, Ocean, Passaic.
Connecticut: Fairfield, New Haven.

NORTH CAROLINA												
Tarboro	WCPS (1 kw., D, 760 kc. (clear 1-A)).											EST.
January-December		Day	217,122	2,922	.5							
December	7:15-5:00	5:00 p.m. (1)				21,611	9.95	232	7.94	7.04		
		6:00 p.m. (1)				12,589	5.80	53	1.81	23.6		
Wadesboro	WADE (1 kw., D, 1210 kc. (clear 1-A)).											EST.
January-December		Day	84,420	1,430	.5							
December	7:15-5:15	5:00 p.m. (1)				5,223	6.2	30	2.5	18.4		
		5:30 p.m. (1)				4,818	5.7	28	2.2	22.2		
		6:00 p.m. (1)				4,168	4.9	15	1.05	38.70		
OHIO												
Cleveland	KYN (50 kw., U, DA-1, 1100 kc. (clear 1-A)).											EST.
January-December		Day	8,578,000		.1							
December	7:45-5:00	5:00 p.m. (1)				*4,372,000				.84		
		6:00 p.m. (1)				*5,266,000				2.58		
		7:00 p.m. (1)										
		8:00 p.m. (1)										
		9:00 p.m. (1)										
		From CST stations.[3]										
		From MST stations.[3]										
		From PST stations.[3]										
		Loss of all skywave service.[3]										

See page 77 for footnotes.

Extent of present groundwave service compared to potential gains and losses—Continued

Location; and month [1]	Station; sunrise-sunset time [2]	Time; and mode of change [3 4]	Present service			Resulting gain or loss of service					Coverage of urban community [7]; notes
			Population	Area (miles²)	Mv./m.[5]	Population	Percent [6]	Area (miles²)	Percent [6]	Mv./m.[5]	
OHIO—continued											
Columbus	WOSU (5 kw., L, 820 kc. (clear 1-A)).										EST.
January-December		Day	382,451	6,164	0.5						
December	7:45-5:15	5:30 p.m. (1)				224,766	58.7	301	4.8	6.8	
		6:00 p.m. (1)				143,884	37.6	105	1.7	13.7	
Dayton	WAVI (250 w., D, 1210 kc. (clear 1-A)).										EST.
January-December		Day	599,182	2,880	.5						
December	7:45-5:15	5:00 p.m. (1)				299,023	50	58	2.0	15.9	
		5:15 p.m. (1)				222,462	37	34	1.2	21.4	No.
		6:00 p.m. (1)				133,974	22	17	.6	35.2	
Dayton	WING (5 kw., U, DA-N, 1410 kc. (regional)).										
January-December		Day			.5						
December	7:45-5:15	6:00 p.m. (2)	593,280	1,926	2.03	*239,980	40	*1,597	83	18.15	
		7:00 p.m. (2)	559,930	1,590	2.53	*247,800	44	*1,313	83	15.34	
		8:00 p.m. (2)				From MST stations.[8]					
		9:00 p.m. (2)				From PST stations.[8]					
OKLAHOMA											
Oklahoma City	WKY (5 kw., U, DA-N, 930 kc. (regional)).										CST.
December	7:30-5:15	5:15 p.m. (1)	860,420	16,800	2.40	*211,907	24.6	*6,300	37.5	3.8	
		6:00 p.m. (1)	675,341	11,400	3.52	*207,325	30.7	*6,900	60.5	7.6	
		7:00 p.m. (1)	956,641	19,790	1.97	*345,271	36.1	*10,850	54.9	4.44	
		8:00 p.m. (2)				From PST stations.[8]					
Durant	KSEO (250 w., D, 750 kc. (clear 1-A)).										CST.
January-December		Day	399,843	18,713	.5						
December	7:30-5:15 p.m.	(1)				15,157	3.79	266	1.42	3.64	
		6:00 p.m. (1)				11,651	2.91	45	.24	17.8	
Tulsa	KVOO (50 kw., U, DA-N, 1170 kc. (clear 1-B)).										CST.
December	7:30-5:15	6:00 p.m. (1)	1,414,259	51,792	.40	*544,244		*33,028	64	1.58	
		(2)								16	
		7:00 p.m. (2)				From MST stations.[8]					
		8:00 p.m. (2)				From PST stations.[8]					
						Loss of all skywave service.[9]					

Nearby counties affected by loss of WKY service (more distant counties are not listed):
Oklahoma: Canadian, Garfield, Grady, Kingfisher, Lincoln, McClain, Payne, Pottawatomie.

OREGON											
Portland	KPOJ (5 kw., U, DA-1, 1330 kc. (regional)).										PST.
January-December		Day	744, 559	4, 448	.5						
December	7:45-4:30	4:31 p.m. (2)				*58, 047	9	*1, 827	74	3.6	
		6:00 p.m. (2)				*213, 048	33	*656	75	11.6	Approximate; no.
Nearby counties affected by loss of KPOJ service (others more distant not listed): Oregon: Clackamas, Multnomah, Washington, Yamhill. Washington: Clark.											
PENNSYLVANIA											
Philadelphia	WCAU (50 kw., U, 1210 kc. (clear 1-A)).										EST.
December	7:15-4:30	5:00 p.m. (1)	4, 976, 314	11, 380		*1, 291, 139	26	*8, 370	74	3.03	0.5 gw.
		6:00 p.m. (1)				*1, 426, 277		9, 775		6.30	0.5 gw.
		7:00 p.m. (1)				From CST stations.[3]					
		8:00 p.m. (1)				From MST stations.[4]					
		9:00 p.m. (1)				From PST stations.[5]					
						Loss of all skywave service.[6]					
Philadelphia	WFIL (5 kw., U, DA-2, 560 kc. (regional)).										EST.
January-December		Day			.5						
December	7:15-4:30	5:30 p.m. (1)	3, 913, 750	4, 083	2.42	*131, 374	3	*553	16	3.16	
		(2)				*883, 924	18	*2, 720	67	8.77	
		7:00 p.m. (2)				From CST stations.[3]					
		8:00 p.m. (2)				From MST stations.[4]					
		9:00 p.m. (2)				From PST stations.[5]					
Pittsburgh	KDKA (50 kw., U, 1020 kc. (clear 1-A)).										EST.
January-December		Day	6, 604, 000		.1						
March	6:30-6:30	7:00 p.m. (1)				*3, 242, 000				2.17	From CST stations.
December	7:30-5:00	6:00 p.m. (1)				*3, 957, 000				3.75	
		7:00 p.m. (1)				*4, 362, 000				5.85	From CST stations.
		8:00 p.m. (1)				From MST stations.[4]					
		9:00 p.m. (1)				From PST stations.[5]					
						Loss of all skywave service.[6]					
Pittsburgh	WAMP (5 kw., U, DA-N, 1320 kc. (regional)).										EST.
December	7:30-5:00	5:00 p.m. (1)				*698, 900		*710			No.
		6:00 p.m. (1)				*886, 000		*810			
		7:00 p.m. (1)				From CST stations.[3]					
		8:00 p.m. (1)				From MST stations.[4]					
		9:00 p.m. (1)				From PST stations.[5]					

See page 77 for footnotes.

Extent of present groundwave service compared to potential gains and losses—Continued

Location; and month [1]	Station; sunrise-sunset time [2]	Time; and mode of change [3] [4]	Present service			Resulting gain or loss of service					Coverage of urban community [7]; notes
			Population	Area (miles²)	Mv./m.[5]	Population	Percent [6]	Area (miles²)	Percent [6]	Mv./m.[5]	
PENNSYLVANIA—con.											
Stroudsburg	WVPO (250 w., D, 840 kc. (clear 1-A)).										EST.
January-December		Day	92,662	1,134	0.5						
December	7:15-4:30	4:30 p.m. (1)				20,335	21.9	104	9.1	5.5	
		5:00 p.m. (1)				16,885	18.2	38	3.45	11.2	
		6:00 p.m. (1)				10,411	11.2	10	.88	27.5	
York	WORK (1 kw., 5 kw.-D, U, DA-N, 1350 kc. (regional)).										EST.
December	7:15-4:45	6:00 p.m. (1)	131,523	307	3.62	*42,065	32	*241	78.5	16.46	No.
Nearby counties affected by loss of WORK service (others more distant not listed): Pennsylvania: York.											
Nearby counties affected by loss of WCAU service (other more distant counties not listed): Pennsylvania: Berks, Chester, Delaware, Montgomery. New Jersey: Burlington, Camden, Gloucester, Mercer, Ocean.											
RHODE ISLAND											
Providence	WPRO (5 kw., U, DA-N, 630 kc. (regional)).										EST.
March	6:00-5:45					Data not filed; see December					
December	7:00-4:15	5:15 p.m. (2)	1,184,858	1,531	2.03	*171,694	14.5	*454	29.5	4.42	
		7:00 p.m. (2)				From CST stations.[8]					
		8:00 p.m. (2)				From MST stations.[8]					
		9:00 p.m. (2)				From PST stations.[8]					
SOUTH CAROLINA											
Greenville	WESC (5 kw., D, 660 kc. (clear 1-A)).										EST.
January-December			674,000	10,320	.5						
December	7:30-5:15	5:16 p.m. (1)				134,000	20	450	4.4		
		6:00 p.m. (1)				108,000	16	200	1.9		
Greenville	WFBC, WQOK, WESC, WMUU, WMRB, and WFIS (composite).										EST.
December	7:30-5:15	6:01 p.m. (1)				*17,680	13.5	*153	46.9		Loss of all radio service—new white area.
		7:00 p.m. (1)				*24,800	18.3	*219	64.4		
		8:00 p.m. (2)				From MST stations.[8]					
		9:00 p.m. (2)				From PST stations.[8]					
Nearby counties to Greenville, S.C., affected by loss of all radio service: South Carolina: Anderson, Greenville, Pickens.											

TENNESSEE											
Nashville	WSM (50 kw., U, 650 kc. (clear 1-A)).										CST.
December	6:45–4:30	5:30 p.m. (1)				*187, 255	10. 5	*4, 890	13. 5	.6	0.5 gw.
		6:00 p.m. (1)				*574, 031	32. 2	*15, 998	43. 4	1. 02	0.5 gw.
		7:00 p.m. (1)				From MST stations.[5]					
		8:00 p.m. (1)				From PST stations.[5]					
						Loss of all skywave service.[5]					

Nearby counties affected by loss of WSM service (other more distant counties not listed):
Tennessee: Clay, Franklin, Grundy, Houston, Humphreys, Lawrence, Overton, Perry, Putnam, Stewart, Van Buren, Wayne, White.
Alabama: Jackson, Lauderdale, Limestone, Madison.
Kentucky: Barren, Christian, Edmonson, Grayson, Hopkins, Metcalf, Monroe, Muhlenberg, Ohio, Trigg.

TEXAS											
Cleburn	KCLE (250 w., D, 1120 kc. (clear 1-A)).										CST.
January–December		Day	186, 218	6, 741	.5						
December	7:30–5:30	5:30 p.m. (1)				15, 583	8. 4	100	1. 5	13. 8	
		6:00 p.m. (1)				12, 901	6. 9	45	.67		No.
Dallas	KIXL (1 kw., D, 1040 kc. (clear 1-A)).										CST.
January–December		Day	1, 441, 149	21, 352	.5						
December	7:30–5:15	5:15 p.m. (1)				583, 013	40. 4	747	3. 49	12. 3	
		6:00 p.m. (1)				400, 818	27. 8	243	1. 14	24. 3	
Dallas	KSKY (1 kw., D, 660 kc. (clear 1-A)).										CST.
January–December		Day	1, 753, 000	36, 050	.5						
December	7:30–5:15	5:15 p.m. (1)				1, 110, 000	63	6, 110	17		
						762, 000	43	3, 525	10		
Dallas	WFAA (50 kw., share WBAP, 820 kc. (clear 1-A)).										CST.
Fort Worth	WBAP (50 kw., share WFAA, 820 kc. (clear 1-A)).										
January–December		Day	5, 923, 673	284, 260	.1						
December	7:30–5:15	4:30 p.m. (1)				*2, 685, 739	45. 3	*192, 656	67. 7	.9	0.1 gw.
		5:00 p.m. (1)				*3, 320, 096	56	*231, 047	81. 2	1. 90	0.1 gw.
		6:00 p.m. (1)				*1, 970, 308	52. 8	*97, 750	78. 6	4. 81	0.5 gw.
		7:00 p.m. (1)				From MST stations.[5]					
		8:00 p.m. (1)				From PST stations.[5]					
						Loss of all skywave service.[5]					
Houston	KPRC (5 kw., U, DA-N, 950 kc. (regional)).										CST.
January–December		Day (ss+1 min.).	1, 434, 208	25, 100	.5						
December	7:15–5:30		1, 629, 672	38, 760	.31	*692, 467	43	*31, 360	81	3. 52	
		6:00 p.m. (1)	1, 197, 202	14, 225	1. 6	*417, 704	35	*12, 425	87	12. 8	

See page 77 for footnotes.

Extent of present groundwave service compared to potential gains and losses—Continued

Location; and month [1]	Station; sunrise-sunset time [2]	Time; and mode of change [3 4]	Present service			Resulting gain or loss of service					Coverage of urban community [7]; notes
			Population	Area (miles [2])	Mv./m. [5]	Population	Percent [6]	Area (miles [2])	Percent [6]	Mv./m. [5]	
TEXAS—continued											
Pasadena	KROT (250 w., D, 650 kc. (clear 1-A)).										Near Houston.
January-December		Day	1,012,178	13,054	0.5						CST.
December	7:15-5:30	5:30 p.m. (1)				157,864	15.6	191	1.46	11.2	No.
		6:00 p.m. (1)				56,210	5.55	72	.55	19.3	
Port Neches	KPNG (500 w., D, DA, 1150 kc. (regional)).										CST.
January-December		Day	231,509	2,603	.5						Near Beaumont.
December	7:00-5:15	6:00 p.m. (1)				10,582	4.4	57	1.5	25.5	No.
Nearby counties affected by loss of WBAP/WFAA service (other more distant counties are not listed): Texas: Anderson, Archer, Comanche, Coryell, Eastland, Freestone, Hamilton, Limestone, McLennan, Red River, Smith, Stephens, Titus, Wichita Falls, Wood, Young. Oklahoma: Atoka, Choctaw, Coal, Cotton, Garvin, Pontotoc, Pushmataha, Stephens.											
Nearby counties affected by loss of KPRC service (others more distant not listed): Texas: Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Waller.											
VIRGINIA											
Richmond	WRVA (50 kw., U, DA-1, 1140 kc. (clear 1-B)).										EST.
January-December		Day			.1						
December	7:15-5:00	6:00 p.m. (1)	1,087,379	9,610		*743,010	68.3	*8,716	90.6		
		7:00 p.m. (1)		Skywave.		*16,653,753	100	*383,000	100		From CST stations. [8]
		8:00 p.m. (2)					From MST stations. [8]				
		9:00 p.m. (2)					From PST stations. [8]				
							Loss of all skywave service. [8]				
Bedford	WBLT (1 kw., D, 1350 kc. (regional)).										
January-December		Day	35,182	887	.5						
December	7:30-5:00	6:00 p.m. (1)				4,657	12.9	19	2.1	24.8	
Nearby counties affected by loss of WRVA service (others more distant not listed): Virginia: Gloucester, Isle of Wight, James City, Mathews, Nansemond, Norfolk, Northampton, Princess Anne, Surry, Warwick, York.											
WASHINGTON											
Omak	KOMW (1 kw., D, 680 kc. (clear 1-B)).										PST.
January-December		Day	43,700	8,660	.5						

December	7:45–4:00	4:00 p.m. (1)				19,600	45	2,870	33		
		5:00 p.m. (1)				8,900	20	430	5		
		6:00 p.m. (1)				5,500	12.6	150	1.7		
WEST VIRGINIA											
Clarksburg	WPDX (1 kw., D, 750 kc. (clear 1-A)).										EST.
January–December		Day	336,309	3,425	.5						
December	7:30–5:00	5:00 p.m. (1)				117,645	34.9	810	23.6	5.7	
		6:00 p.m. (1)				41,596	12.3	85	2.48	23.8	
Wheeling	WWVA (50 kw., U, DA-N, 1170 kc. (clear 1-B)).										EST.
January–December		Day			.1						
December	7:45–5:00	6:00 p.m. (1)	3,150,048	19,429	.38	*2,665,039	85	*16,000	82.3	2.68	
		(2)								16	No.
		7:00 p.m. (1)	2,933,953	16,222	.51	*2,523,042	86	*13,454	82.9	3.35	
		(2)								16	
		8:00 p.m. (2)				From MST stations.[8]					
		9:00 p.m. (2)				From PST stations.[8]					

*Indicates loss.

[1] December, the month in which the winter solstice occurs, is representative of conditions during the winter season. March, in which the vernal equinox occurs, is representative of the spring and fall seasons.

[2] U (unlimited time); D (daytime); SH (specified hours); DA-N (directional antenna—night); DA-1 (directional antenna—same day and night); DA-2 (directional antenna—different day and night); S (shares time with); L (limited time).

[3] Each entry shows conditions existing to the hour shown. Presunrise data are not included in the tabulation except where noted. Such may be considered the conjugate of postsunset operation.

[4] Modes of change in station operation:

(1) If stations licensed under the rules to broadcast during daytime hours, i.e., between local sunrise and sunset, were licensed under amended rules to extent broadcasting during such nighttime hours as may occur between 6 a.m. and 6 p.m., local standard time.

(2) If, in addition to (1) above, stations licensed under the rules to broadcast, with no maximum limit as to time, in accordance with nighttime reductions in power or change to prescribed nighttime directional antennas, were licensed under the amended rules to extend broadcasting with no power reduction or antenna change during such nighttime hours as may occur between 6 a.m. and 6 p.m., local standard time.

[5] Indicates the normally protected service contour or the interference limitation, whichever has the greater signal intensity, in millivolts per meter. An interference limitation, which results from 2 or more stations operating on the same channel at the same time, delimits the range of each station to the nearby areas which receive a signal strong enough to buffet out the resulting ambient interference.

[6] The percent of service gain or loss is compared to the service now afforded by the operation of the station at the time shown or, where such operation is not licensed, as compared to the service afforded during the daytime licensed hours.

[7] The extent of rural coverage is not included in the tabulation except where noted. The loss of skywave coverage, the only service available under nighttime radio propagation conditions in the standard broadcast band to more than 50 percent of the U.S. land area, is shown by notation for stations now affording such service.

[8] This tabulation is based upon the operation of postulated new stations, initially licensed under the amended rules, and in accordance with the indicated modes of change in station operation as described above.

[9] 1,160 miles becomes white area; 2,340 miles becomes gray area.

[10] Interference from KTXO only, 250 w., Sherman, Tex.

APPENDIX II

Number of standard broadcast stations authorized as of Mar. 1, 1959

Class of channel	Number of channels	Number limited time	Number daytime	Number full time	Total
1. U.S. I-A	25	14	45	26	85
2. Canadian I-A	7	0	180	33	213
3. Mexican I-A	6	0	255	2	257
4. Bahamas I-A	1	0	13	6	19
5. U.S. I-B	19	3	51	107	161
6. Foreign I-B	2	0	7	11	18
7. Class III	41	0	975	748	1,723
8. Class IV	6	0	2	933	935
Total	107	17	1,528	1,866	3,411

APPENDIX III

Issues set forth in the notice of inquiry

1. The times during which, the areas in which, and the populations for whom the "6 to 6" operation would result in a new primary service.

2. The extent to which such new primary service would occur where no other primary service is available—

(*a*) From any other station.

(*b*) From any other station located in the same community.

3. The periods during which, the areas in which, and the populations for whom primary service now available would be subjected to objectionable interference.

NOTE.—The losses in areas and population during all hours affected by the proposal, both before and after local sunset and after and before local sunrise, bearing in mind time differences throughout the country, are requested in response to this issue.

4. The extent to which the foregoing losses of service would be sustained in areas which receive no other primary service.

5. Data similar to 3 and 4, above, with respect to losses of skywave service of class I stations during evening listening hours before 9 p.m., eastern standard time; and morning listening hours after 3 a.m., Pacific standard time.

6. The degree of interference which would result from authorization of "6 to 6" operation to stations in other North American countries with which the United States has broadcasting agreements, determined in accordance with the nighttime standards of these agreements. (In instances of interference to class I stations, areas affected should be shown.)

7. Whether it would be equitable, reasonable, and appropriate allocation practice to authorize daytime stations to operate from "6 to 6" and preclude unlimited time stations with different daytime and nighttime facilities from using their daytime facilities during the same nondaytime hours.

8. If it should be concluded that daytime stations should be permitted to operate from "6 to 6," and if, in answer to 7 above, it is also concluded that full-time stations should be permitted to operate with their daytime facilities from "6 to 6," how much additional interference (in areas and populations) would be caused and how much service would be gained or lost by full-time stations so operating?

9. Should "6 to 6" licensing be considered in only those communities with no local full-time standard broadcast station?

10. Should "6 to 6" licensing be considered in terms of such licensing limited to only one station in a community?

11. If "6 to 6" licensing is to be permitted only for stations in communities with no local full-time stations, should such "6 to 6" authorizations be terminated when full-time stations are licensed in the same communities?

12. Of the 913 communities having 1 or more daytime stations but no full-time stations, listed by Daytime Broadcasters Association, Inc. (in its engineering statement appended to its comments in docket No. 12274), which communities receive primary service from full-time stations located in the same urbanized or standard metropolitan areas (as defined by the 1950 U.S. census) or in the same counties?

13. Would it be feasible for daytime stations, if operating after sunset, to reduce power sufficiently at sunset and before sunrise to limit interference to other stations to the daytime level? If so, how much service would be provided with such reduced radiation?

14. Specifically, what changes in Commission rules would be necessary in order to authorize the "6 to 6" operation upon which inquiry is made herein?

15. What changes, if any, would be necessary or desirable in the text of and in the Commission's procedure pursuant to section 3.87 of the Commission's rules if the "6 to 6" operation were adopted?

16. Considerations other than those arising from the physical facts of radio propagation, including—

(*a*) What effect would the new services gained have on reception of needed and valuable programs by persons who are advantaged by such reception, including emergency and weather information, farm information, national and local news, programs, and announcements concerning local affairs and local organizations?[1]

(*b*) What effect would the limitation of service through destructive interference have upon access to events of national and regional interest and to programs of a type which cannot be originated by local communities, and other needed and valuable transmissions now available under the existing allocation rules?

(*c*) With respect to those of the 913 communities mentioned above which are located in the same standard metropolitan or urbanized area as, or the same county with, a full-time station, to what extent do the full-time stations serve the particular local needs of such communities?

(*d*) The effect of the proposal on the conelrad operation, considering the need for alerting broadcast stations, other radio stations, and the general public by means of skywave and groundwave radio signals.

(*e*) What would be the effect of grant of the "6 to 6" operation on the development of FM broadcasting?

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[1] We expressed the view in the report and order in docket No. 12274 (par. 49) that the needs and advantages relating to programing were common to all radio service, and that "any change in allocation rules which results in degradation of overall radio service results in less meeting of the various needs and provides for less of the advantages than at present." We adhere to that view on the basis of the record made in that proceeding. But we wish to permit the presentation of any special facts as to the value of the programing of certain stations or kinds of stations which may be available; and accordingly we are including this among the issues herein. Data supplied along this line, as in other connections, should be specific and factual, rather than general and conclusionary.